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## AIR CONDITIONING AND REFRIGERATION

*News*

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APR 1 - 1947

DETROIT

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### INSIDE DOPE

by GEORGE F. TAUBENECK

Last Words About This  
What We Face  
A Strong Defense Is the  
Best Offense  
Should We Tell More People?  
Does the Shoe Fit?  
We Could Use the Johnson Spirit

#### Last Words About This (Concluded from March 24 issue)

World Communism is on the march. And it's marching fast. Without even exposing itself to a shooting war, it is rapidly gathering a sick old world into its unholy bosom. Only part of the western world remains free. And all of us are in danger.

Here's the sum-up: we all cherish the American Free Enterprise System because we like to live under it ourselves, because it has fostered an extraordinary high standard of living for the "little people," and because it gives our kids a chance to get ahead and do better than we have done. It affords them an opportunity to become what we hoped we might be. Let any Soviet Commissar try to beat that promise of eventual well being and family satisfaction!

The American System is still the best way-of-life the world has ever witnessed. It has given the most people the most material blessings and the most happiness and the most freedom.

But our magnificent formula-for-happiness-and-success is on trial. What's more, its very right-to-exist has been challenged, and broadly, too. It's high-time that we take inventory of our intangible assets, and count our many blessings, so that we can refute the theorists who propose to upset our style of living. It's imperative that we do our best to prove that our system is the best.

#### What We Face

What can you do, yourself, to help America and the cause of Liberty? Friend, the answer to that question should be popular. It is: *work harder, produce, and make more money.* Forget about the tax collector for awhile. Sure, he'll take away a large portion of the money you earn by working and thinking and daring and trying. But remember:

By working overtime, by being so bold as to expand your business, you are helping make America stronger. Much of the added income tax you may earn in the process will go toward national defense. Thus, by your creative, overtime efforts you'll help defend your way of life—and the liberty your children should have—against the dirty, determined onslaught of Satan's Totalitarian Legions. And, to be grandiose about all this, you may be celebrated in a Page of History as a contributor to Freedom's Fund.

Work harder, be more ambitious, take more chances. Then you'll pay higher taxes (thus supporting our nation's military organization), have surplus cash for investment in risky new enterprises (thus strengthening the productive potential of our nation), and demonstrate that Our System is the Best.

All around the world hungry and hopeless human beings are turning toward Socialism and Communism. They want and need a change. They're bankrupt. They're ready to try anything—to give up their hard-won liberties, even—which promises to put more bread in their mouths and more rags around their shivering shoulders. And so they turn toward Socialism—which is a form of receivership for national bankruptcy. That, in turn, plays right into the hands of the Communists.

(Concluded on Page 12, Column 5)

### Dealers Get 5 New G-E Refrigerators, 2 Home Freezers

DETROIT—Five models of the new 1947 General Electric "Space-Saver" electric refrigerators and two models of home freezers are being introduced now to General Electric dealers.

The refrigerator line includes three 8 cu. ft. models, a 6 cu. ft. model, and a 10 cu. ft. box. The chest type freezers were of 4 and 8 cu. ft. capacity.

General Electric claims that because of a new smaller hermetically sealed refrigerating unit, each refrigerator model contains 2 cu. ft. more refrigerated space than previous models of similar floor size.

Thus, the 6 cu. ft. refrigerator now occupies the same floor space as the former 4 cu. ft. model. The 8 cu. ft. box occupies the same space as an average 6 cu. ft. unit, and the 10 cu. ft. refrigerator fits in the space formerly required for an 8 cu. ft. unit, it is said.

Prices quoted on the units are \$179.75 for the 6 cu. ft. unit, \$199.75 on the NB-8, \$229.75 on the NC-8, \$259.75 on the ND-8, and \$299.75 on the ND-10. The home freezers are said to list at \$209.75 for the NA-4 and \$299.75 for the NA-8.

The ND-8 unit is said to be available now, but the other refrigerators will not be available until next month.

The refrigerators are powered by an 1/2-hp. motor featuring a rotor of cast aluminum and stator windings of Formex wire, a G-E development. This wire is claimed to be unaffected by refrigerant or oil and to withstand much higher temperatures than cotton insulated wire.

The hermetically sealed unit also is equipped with self aligning bearings, patented metal glass leads which

(Concluded on Page 29, Column 3)

### Amana Cuts Price on Freezer Model \$40

AMANA, Iowa—Effective immediately, the Refrigeration Division of Amana Society here is making a 15% reduction in the price of the Amana model 50 5-cu. ft. home freezer, resulting in a cut of about \$40 in the price of this model.

"This price reduction is made possible by an expansion in production that has resulted in substantial savings in cost," reports George Foerstner, general manager of the Refrigeration Division. "This reduced price is Amana's contribution to curbing price inflation and keeping home freezer prices at reasonable levels."

### Freez-Pak Makes Portable Refrigerator

ROYERSFORD, Pa.—Production of a 2 1/2-cu. ft. portable electric refrigerator for use in home bars, hotel rooms, and resort cottages, is scheduled to start here on May 15, John Steel, president of the Freez-Pak Corp., has announced.

A pilot run on the new Freez-Pak refrigerator will be held on May 1 and full production is expected to be reached by June 1, Mr. Steel added. The company expects to turn out 100,000 units a year, he declared.

Sales of the unit will be handled internationally by Danese & Jewel, Inc., 122 E. 42nd St., New York City. Freez-Pak is expected to retail for \$129.50 with a one year guarantee included in the sales price. The customer can, if he wants, buy a five year guarantee for \$5, according to Danese & Jewel.

The Freez-Pak refrigerator, to be

(Concluded on Page 20, Column 5)

### Frozen Food Show Draws 7,219 Visitors

By Philip G. Brady

SAN FRANCISCO—Exceeding even the most optimistic expectations, the first independent Frozen Foods Exposition held here March 19-21, was unanimously judged an outstanding success by participants and observers alike.

An official registered count of 7,219 packers, distributors, brokers, and dealers attended the three-day sessions. Some 105 exhibit spaces were taken to show the latest products in booths which occupied nearly 25,000 square feet of the vast Civic Auditorium.

The attendance, which doubled the prediction, was considered outstanding by local convention officials who pointed out that not one of the sessions was open to the general public.

Simultaneously with the exposition, conventions and meetings were held of the National Association of Frozen Food Packers, National Wholesale Frozen Food Distributors, and the Frozen Food Committee of the National Food Brokers Association.

Scores of manufacturers utilized the exposition as a setting to unveil their latest products in packaging machinery, frozen food cabinets, and

(Concluded on Page 4, Column 4)

### Small Mfrs. Boycott Steel Gray Market

PITTSBURGH—Aroused by the "gray market" activities of mysterious steel "brokers" who are said to be charging hard-pressed producers at least 200 to 300% above listed quotations, the Smaller Manufacturers Council here voted a boycott of all steel not obtained through legitimate suppliers at regular prices.

At the same time, the Council asked six major steel makers for assistance in wiping out this market, reported to be running into millions of dollars. The Council represents 200 firms with a 500-man maximum personnel each.

In letters to the six producers, the Council said that while allotments to small consumers were being cut, quantities of steel as high as 3,000 tons have been offered from sources not regular to the industry.

Recent reports indicate that such "bootlegging" of steel is being carried out on a nation-wide scale. Varieties of sheet steel seem to be the main commodity.

In many cases, the "bootleggers"

(Concluded on Page 32, Column 1)

### 'Green' Appliance Dealer Aims for City-Wide Market Through Advertising

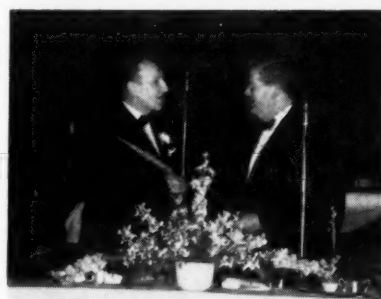
By John Sweet

DETROIT—What are the chances for a newcomer to appliance merchandising to plunge into the game on a fairly sizeable scale in a metropolitan area and compete for city-wide business?

Pretty good, judging from the results to date of just such a venture by Samuel Eichner, owner of King Home Appliances here. Last year this 18-month-old store's volume added up to a reported \$300,000. This year's take is expected to reach \$500,000.

Mr. Eichner, who considers himself "the greenest appliance dealer in Detroit," operates out of a "neighborhood" store in a northwest residential area about six miles from the downtown district. However, since King Appliances pursues a policy of direct competition with downtown and other outlets, it is a neighborhood store only in location.

### Two Presidents



Ted Glou (left), retiring president, congratulates George Roche on his election as head of R.E.W.A.

### Shipments Up 14% For Third Quarter

WASHINGTON, D. C.—Shipments of all major classes of components for air conditioning and commercial refrigeration equipment reported to the Bureau of Census, showed increases (at least dollar-wise) in the third quarter of 1946, according to a detailed report just released.

There was a 14% increase in dollar value of shipments of the entire industry. The greatest percentage increase for a specific product was in shipments of room-type air conditioning units, which rose 34% over the combined value of shipments of first and second quarters.

Shipments of other products increased (in dollar volume) between the second and third quarters of 1946 as follows: centrifugal refrigeration machines, 22%; compressors and compressor units, 17%; condensing units, 16%; and heat exchanger equipment, 10%.

The report covered 72 firms. (Detailed figures from the report are published on pages 26 and 27 of this issue.)

### FCA Finds Lockers Serve 13 Million

WASHINGTON, D. C.—About 3 1/2 million families, or approximately 13 million persons, are now being served by frozen-food locker plants, a survey just released by the Farm Credit Administration of the United States Department of Agriculture reveals.

Locker plants increased from 4,600 in 1943 to 8,000 in 1946, and still more plants are being opened as materials and equipment become available.

Average patrons per plant went from 285 to 414, an increase of 44% in the three years. Farmers were the chief users; they made up three in every four of the total patrons.

(Concluded on Page 4, Column 1)

### REWA Hears Warnings On Credit, Stocks

Roche Elected President, Wickham Vice President, At Meeting In Chicago

CHICAGO—Members of the Refrigeration Equipment Wholesalers Association, the national association of parts and equipment wholesaling firms, met March 19-22 here in their annual meeting, electing new officers and committees for the coming year, and discussing problems of merchandising and trade problems.

While representatives of member firms reported continuing good sales, and expressed the belief that volume would continue at a high level throughout the year, they heard from various speakers words of caution on such matters as credits and inventories.

(For a more complete report on their inventory situation, see pages 8 and 9 of this issue.)

George Roche of Roche & Hull, Baltimore, was elected president of R.E.W.A., to preside over the organization during the coming year. J. F. Wickham of Wickham Supply Co., Lincoln, Neb., was elected vice president.

R. L. Hinshaw of Hinshaw Supply Co., San Francisco, is the new secretary, and Alex H. Holcombe, Jr. of Victor Sales & Supply Co., Philadelphia, was re-elected treasurer. H. S. McCloud remains executive secretary. New directors include Wickham and Hinshaw, and H. Whiting Holt, Wm. M. Orr Co., Pittsburgh; and J. P. Glass, Chase Refrigeration Supply, Chicago.

Region 9, the far west regional group in the association, was split up by the action of the R.E.W.A. board of directors into two groups. Oregon, Washington, and Idaho, and British Columbia will comprise the new region split off from the original Region 9. Left in Region 9 are California, Nevada, Utah, and Arizona.

H. F. Spoehrer of the Sporlan Co., president of the Refrigeration Equipment Manufacturers Association, expressed regret at the circumstances which had prevented a joint R.E.W.A.-R.E.W.A. meeting this year, and said that plans had been made for a resumption of the joint meeting in 1948.

Plans call for holding such a meeting at a resort, in the manner of the meetings held at French Lick Springs some years ago, Mr. Spoehrer declared.

R.E.W.A. retiring president Ted Glou, Central Service Supply Co., Syracuse, N. Y., commented on a number of matters of interest to the membership and to the industry.

"During the past few months publicity was given to the distribution of unitary equipment by wholesalers and considerable controversy regarding this ensued," said Mr. Glou. "Many inquiries to me regarding the association's position in the matter necessitated my clarifying the fact that the association by-laws did not prohibit the members from handling unitary equipment providing it is merchandised in accordance with the method of distribution outlined in the by-laws and constitution."

"It is the method of distribution that affects membership status. Unitary equipment can be distributed by a member without jeopardizing his membership status provided he does not sell this equipment through franchised or exclusive dealers or assume the responsibility of warranty."

Mr. Glou said that "during the past year we have seen the lifting of all the war controls on production and prices and as we entered this transition period we all wondered

(Concluded on Page 31, Column 1)

## The Tiger and the Ladies



Tyler Fixture Corp.'s first open meat and dairy self-service case to come off the 1947 production line was recently flown from Chicago to Burbank, Calif. for the National Orange Show where it was exhibited by Perfecold. On hand to greet the case were: (left to right) Billie Hunt, Gerry Cameron, Mary Featherstone, and Romaine Miller, all hostesses at the Show.

## Flying Tiger Carries New Tyler Open Meat, Dairy Case from Chicago to Burbank for Orange Show

BURBANK, Calif.—Flown by Flying Tiger airliner from Chicago, one of the first of the new 1947 Tyler open meat and dairy self-service cases to come off the production line arrived here recently for display at the San Bernardino National Orange Show, report officials of Perfecold, Inc., Los Angeles firm to whom the equipment was consigned.

Four Orange Show hostesses were on hand at the airport to greet the

case and accompany it to San Bernardino, they said. One of the principal features of the case is said to be its facilities for rear loading.

Perfecold officials declared that this unit was the forerunner of similar models coming to the Pacific Coast by rail. Perfecold handles a complete line of refrigeration equipment for wholesale, retail, and international distribution.

## Current Baker Ice Expansion Plans Include Warehouse

OMAHA, Neb.—A storage warehouse will be the latest improvement to be added by the Baker Ice Machine Co. here, in its current expansion plans, according to A. L. Atherton, engineering manager.

Material shortages have delayed plans for construction of the building, he said, although the company recently completed construction of a building housing \$15,000 worth of sandblasting equipment, while a new shipping shelter also has just been built.

## Commercial Dealer Moves to New Quarters in Binghamton

BINGHAMTON, N. Y.—Sullivan Bros. & Lent, Inc., dealer in commercial refrigeration and air conditioning equipment, has moved to new and larger quarters at 62-68 Water St. where it has large display rooms and a work shop. The company said a "continued expansion in our business" made the move necessary.

**Temprite**  
SODA FOUNTAIN AND  
BEVERAGE  
**COOLERS**  
INSTANTANEOUS

Patented Temprite principle of direct heat transfer guarantees top efficiency, accurate temperature control. Even during peak rush periods, unit will deliver perfectly cooled liquids. 18-8 corrosion-resistant stainless steel coils safely handle all carbonated or non-carbonated beverages. Six models to serve either 1, 2 or 3 different beverages.

**TEMPRITE PRODUCTS CORP.**  
43 PIQUETTE AVE. • DETROIT 2, MICHIGAN

## Gulf Oil Co. May Market Radios, Small Appliances

PITTSBURGH—Gulf Oil Co. here is about to enter into the distribution of radios and small appliances, according to a rumor attributed to company sources. Also on the docket to appear in the Gulf outlets throughout the Midwest are garden tools, small hardware, and bicycles, all bearing the Gulf trademark.

The new products, it is stated, will be marketed through Gulf's tire and supply company subsidiary. It is expected that nearly all of the approximately 40,000 company and privately owned Gulf service stations will retail the items.

In line with the company's entry into the appliance field, Gulf is now carrying on a large-scale modernization plan in an effort to increase the consumer traffic in its service stations.

## First Air Conditioned U.S. Cruiser Launched

QUINCY, Mass.—The first air conditioned cruiser in the U. S. Navy, the 716 ft. *USS Salem*, was launched at the Bethlehem Steel Co.'s shipyards here recently.

As reported in the NEWS on Nov. 11, 1946, the steam jet air conditioning equipment on the *Salem* will be compared in a series of experiments with air conditioning equipment of another design being installed on the 17,000 ton heavy cruiser *USS Newport News*, still under construction at Newport News, Va.

The equipment on the *Newport News* will use high speed "Freon" compressors and a simplified Navy coil design which is said to be shock-proof and easily cleaned.

The *Salem*, and its sister ship the *USS Des Moines*, are said to be the largest cruisers yet built for the Navy, excepting the super-cruisers of the Alaska class.

## Twin-Cities Commercial Dealers Elect Bergstedt President

MINNEAPOLIS—John Bergstedt, local Minneapolis Show Case & Fixture Co. dealer, was elected president of the Association of Commercial Refrigeration Dealers of the Twin Cities here recently.

He succeeds George B. Herman, one of the group's founders and its first president. Mr. Herman is now president of the National Commercial Refrigerator Sales Association.

Other officers elected with Mr. Bergstedt are: George Orness of McCray Refrigerator Co., vice president, and Richard Herman of Allied Store Equipment Co., secretary-treasurer.

## New Refrigeration Equipment Distributor Opens in South

SHREVEPORT, La.—Bowlin & Chamlee Co., Inc., distributor, has opened here recently to serve the Shreveport, Monroe, and Alexandria areas.

The new distributorship has the exclusive franchise for Ward Monterey refrigeration equipment and Fischman soda fountain equipment.

## Western Refrigeration Names Branson Sales Manager, Outlines New Policy

OAKLAND, Calif.—Western Refrigeration Co. here, a wholesale distributor which has announced a new type of sales policy, reports the recent appointment of Lem V. Branson, former official of California Refrigerator Co., as sales manager.

Mr. Branson has been active in the wholesale refrigeration field for 14 years. During the past year he was chairman of the trade relations committee of the Refrigeration Equipment Wholesalers Association and first chairman of Western REWA, but resigned from both offices when he left California Refrigerator.

Western Refrigeration, operated by co-partners T. F. Rhoys and Chalmers Tefft, distributes commercial and industrial refrigeration equipment and allied products in northern California. Here are the main points of its sales policy, as outlined by Mr. Branson:

1. Unlike many distributors of commercial refrigeration equipment, the company does no retail business.
2. Sales are confined to dealers or wholesale industrial users and in no case does the firm make any installations. This is intended to eliminate any possibility of competition with its dealers.
3. A few of the products are distributed through franchised outlets, but most are sold to any legitimate sales dealer or contractor.
4. Sales are handled through a resident salesman in each specified territory. Each salesman is responsible for all possible contacts in his area, "thus giving the company complete controlled coverage of its entire territory and assuring the manufacturer of thorough distribution."

### 'LEGITIMATE' SALES EXPLAINED

According to the firm's statement of policy, refrigeration sales will be accepted as legitimate only if they conform to the following classifications and definitions:

"(A) Commercial: Sales to the refrigeration trade including sales agencies (domestic or foreign), sales dealers, service dealers, local manufacturers, and contractors of refrigeration installations and systems.

"(B) Industrial: Sales to agencies (domestic or foreign), engineers, institutions, city, county, state and national governments, and large industrial users, who:

1. Install and maintain service on their own equipment by means of full time refrigeration employees carried regularly on their payroll. Or,
2. Regularly purchase their refrigeration equipment, parts, or supplies on a wholesale basis."

### POLICY NOT LIMITED

The policy, it is noted, will not necessarily limit the concern's operations to sales of refrigeration equipment exclusively.

Western Refrigeration, which describes its primary function in the refrigeration industry as "the representation of the sales departments of various manufacturers," does not directly guarantee any manufacturer's product.

"It does, however," the policy statement points out, "negotiate and enforce purchasers' claims that affect the manufacturer's guarantee. The company may, for dealer relationship reasons, make individual case adjustments."



LEM V. BRANSON

"The standard manufacturer's guarantee is the replacement free of charge, within one year from date of installation, of any part, parts, or total piece of equipment that, when shipped prepaid to the manufacturer, is adjudged to be defective by them. The responsibility for installation and maintenance of service labor guarantee is always a responsibility of the trade who purchase the materials or equipment from the wholesaler."

Merchandise or equipment that has been shipped in good faith by the company against a written bona fide order is expected to be accepted and paid for by the customer, the policy states, provided:

1. That the order has been filled correctly and is not a duplication.
2. That the merchandise or equipment is of the type and style as is represented by the manufacturer.
3. That the invoice cost does not exceed the company's prevailing prices."

### COMPANY REGULATES RETURNS

"Open account shipments conforming to the foregoing," the statement continues, "may not be returned for credit without specific authority from an officer of the company. All freight and handling charges arising from an authorized return will be billed to and collected from the purchaser."

"Sight draft or C. O. D. shipments against bona fide orders that are refused by the purchaser and returned to the company, without just cause, will receive individual consideration and attention."

All cancellations of orders must be in writing and must be received by the company prior to shipment, it is explained. Telegraphic communications are recommended where expediency is paramount.

### SERVICING 'CONSULTANTS'

Although the firm does not maintain a service department in the usual sense, it points out that it has experienced personnel available to dealers only, for advice and instruction.

Likewise, refrigeration engineers are available for the convenience and guidance of any legitimate wholesale account on a cost free basis. This service is necessarily limited to recommendations, technical applications, and quotations on merchandise and equipment sold or offered for sale by the company.

Western Refrigeration distributes the products of such manufacturers as Iceberg Locker Systems, Victor Products Corp., Jordon Refrigerator Co., Revco, Inc., Paley Mfg. Corp., Merchant & Evans Co., and others. It is understood to be entertaining propositions on additional lines.

## Admiral 1946 Earnings Hit 250% of 1945 Figure

CHICAGO—Admiral Corp. here has reported net earnings over two and a half times greater than in 1945. This sets an all-time high, Ross D. Siragusa, president, stated in his annual report to stockholders.

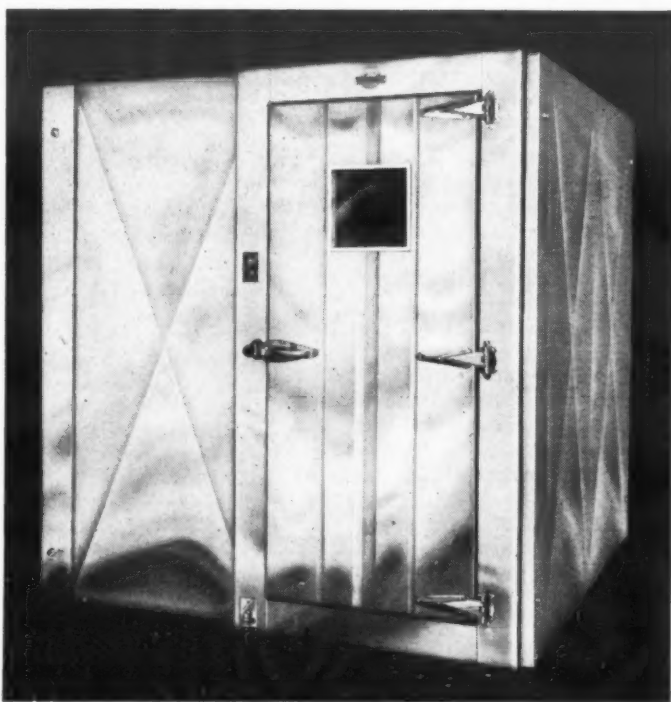
Net profit for 1946 was \$1,838,625.27 for 1946, compared to \$711,310.15 for 1945. Sales for 1946 were \$36,168,850.70 representing an increase of 15% over 1945. Sales of the company's new appliance division were \$5,400,000 for its first full year of operation, the report revealed.

## IT'S DIFFERENT DELAWARE FREEZER PREFABRICATED Walk-in freezers, hardening and storage coolers

Aluminum interior and exterior  
Floor heavy gauge galvanize  
6" fiberglass insulation throughout, Vapor-proofed.  
Heavy duty low-temperature aluminum covered door, equipped with heavy duty chrome plated hardware and thermopane 4-glass window.  
Sections prefitted—simple to assemble, move or enlarge. Locate door at any side.  
Striking, impressive design. Economical and efficient.  
Rubber gasket mounted on each panel to assure leak-proof fit. Interior vapor proof light and outside pilot light.  
Sized for every need—7x7x7 to 7x19x7.  
10x7x7 to 10x19x7 also available in 8' height.  
Write today—don't delay—franchises for distributors and dealers. Profit with DELAWARE FREEZER PRODUCTS.  
Each product built is the greatest value in the field.

Our 17th Anniversary

**DELAWARE REFRIGERATION COMPANY**  
834-850 N. Sixth Street, Philadelphia 23, Pa.  
Manufacturers of Freezer beverage coolers, display cases and freezer cabinets, beer cooling equipment and other items.



MODEL AF-777

*Here's your market*



# Beverage coolers sell everywhere

**T**HE tremendous postwar increase in the consumption of liquid refreshments has created an almost unlimited market for reliable beverage coolers. In most sections of the country, nearly every business house, from the corner filling station to the biggest department store, can profitably sell soft drinks as a supplement to its other business. Every tavern, restaurant, hotel, and club needs one or more reliable beverage coolers for soft drinks, mixers, and malt beverages.

In many cities, old-fashioned cooling methods have been outlawed because of their unsanitary features. Dependable mechanical refrigeration is proving the most satisfactory and economical answer to all beverage cooling problems.

The dealer who sells this trade should bear in mind that unlike most "fixture" sales, the prime duty of the refrigeration is *not* to meet the leakage load on the cabinet, but to remove rapidly the heat of warm

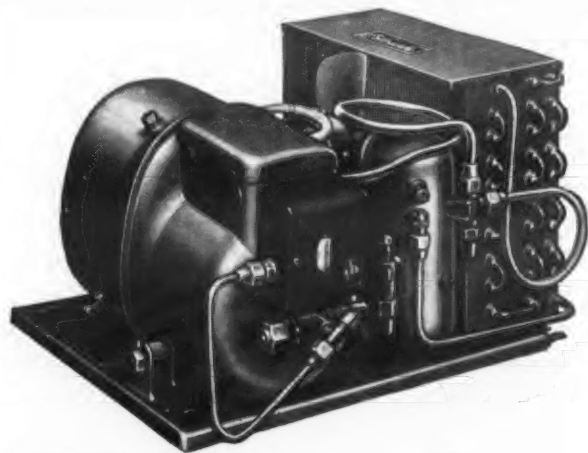
bottles and maintain them at a satisfactory drinking temperature. This "product load," more often than not, is several times as great as the leakage load. So, in building for future business, the wise dealer will make sure he has an efficient evaporator and a high-capacity condensing unit that will meet the peak loads of midsummer.

Many thousands of beverage coolers have been "Powered by Servel" over the past twenty years. Now the Servel Supermetic is gaining increased acceptance in this important field. Four fractional horsepower models are currently being produced in the "H" type, applicable to this duty, with capacities matching the various sizes from a four-case cooler to a fifty-case cooler.

When you select the proper size of beverage cooler "Powered by Servel," you can rest assured that your customers will get few complaints on warm beverages, and that repeat sales will come easily.



Servel Supermetic Model H2B, one of four fractional horsepower models used widely for the heavy-duty service imposed by beverage cooling.



**Servel Inc.**

ELECTRIC REFRIGERATION DIVISION, EVANSVILLE 20, INDIANA

Beverage cooler photograph courtesy of Ideal Cooler Corporation, 2953 Easton Ave., St. Louis, Missouri, specialists in the production of heavy-duty beverage coolers since 1936. The Electric Refrigeration Division of Servel, Inc., manufactures condensing units only. These are available through prominent distributors and fixture manufacturers in all sections of the country.

This is Number Four in a series of advertisements featuring the markets available to the alert dealer in the commercial refrigeration industry. Ask for reprints for use in training your salesmen to take full advantage of all commercial refrigeration markets.

## Locker Plants--

(Concluded from Page 1, Column 4)

The survey indicates custom slaughtering of meat animals and related services such as curing pork and rendering lard by locker plants, were on the increase. Also more and more farmers brought in poultry and fruits and vegetables to be processed and frozen.

New plants are larger and some of the older ones are being expanded. On the average, plants now hold around 500 lockers, or 52% more than in 1943. Together, all plants have space for some 4 million lockers and can store about 1.4 billion pounds of food, on the usual proportion of 9 lbs. of meat to 1 lb. of fruits and vegetables.

Of the lockers installed, 99% were rented. Many plants were 100% rented and had waiting lists.

Of the total plants, 29% were not affiliated with any other business, 35% were operated in connection with grocery stores or retail markets, 16% with ice and cold-storage plants 10% with dairy plants, and 10% with other enterprises.

Individuals owned 49% of the plants surveyed, partnerships 22%, corporations 16%, and cooperatives 13%.

### Trade Items Offered In South

CHARLOTTE, N. C.—Used air conditioning units, compressors, refrigeration units, water coolers, and coils are being offered for sale at fixed prices by the regional office of the War Assets Administration here. The sale closes April 2.

## Accepts Carrier Post



JOHN F. CHESTER

### Chester, Ex-Newsman, Will Head Public Relations

SYRACUSE, N. Y.—Appointment of John F. Chester as Director of Public Relations of Carrier Corp., has been announced today by Cloud Wampler, president.

Mr. Chester has been general business editor of the Associated Press in New York since 1945, when he returned to this country after two years as correspondent in the Near East, Italy, and France. For a period of months he was Chief of Bureau at Cairo.

## Borg-Warner Plans to Move Into Newly-Acquired Rolling Mill on May 1

CHICAGO—The Borg-Warner Corp. will acquire the Franklin (Pa.) Steel Works of the Chicago Railway Equipment Co. on May 1, C. S. Davis, Borg-Warner president announced recently.

The Franklin Steel Works is a re-rolling mill which produces a variety of steel shapes, including rounds, flats, and fence posts.

Borg-Warner has already appropriated more than \$500,000 for additions to the mill so that it may attain a capacity of 75,000 tons per year, according to Mr. Davis.

Approximately 600 persons are expected to be on the payroll eventually, he added.

### Business Operations Expand At Allied Freezer Corp.

NEW YORK CITY—Allied Freezer Corp. here has announced that expanded operations now enable it to accept new business on its line of freezer plates and liners. In the past the company has restricted its sales to established accounts due to shortages.

The plates and liners are manufactured from heavy gauge steel. Engineered embossings and seams are welded by electronic control, then high pressure tested, the company points out. Dehydration is assured through use of thermostatic ovens.

## 7,219 Attend Frozen Food Show In West--

(Concluded from Page 1, Column 3)

other industry accessories. Probably at least a dozen and a half new home freezer and retail frozen food cases which had not been displayed at any previous show were introduced at the exposition.

A survey of exhibitors disclosed that practically all were in favor of making the exposition an annual event. Only repeated complaint was that the show did not run long enough.

Chief problem confronting the frozen food industry is the huge frozen food inventory now in warehouses, the meetings revealed. Frank Jerome, vice president of the First National Bank of Seattle, warned the packers that their supply of credit is largely tied up in inventory.

He pointed out that "another packing season is almost upon us" and that some means must be taken to reduce the surplus. He also pointed out that frozen foods are classified as "perishable goods" for lending purposes thus limiting a bank's loans to 10% of its assets for that category.

Two advertising men, Emil Brischner, president of Brischner, Van Norden & Staff, and Donald Barr, Young & Rubicam, in separate talks told the delegates that the industry had not even begun to merchandise the consumer. They pointed out how other industries faced with the same merchandising problem had thrived upon intelligent institutional advertising.

Mason T. Rogers, president of Packaging Institute, scored the industry for not giving as much attention to packaging as it had to production problems. The basic frozen food package, he said, had not materially improved over the original one introduced 15 years ago. He pointed out that although frozen foods only constituted 2% of all produce, many packers felt that housewives were so familiar with them that they intentionally left off directions on the package. Such oversights, he asserted, led to fault-finding with the product.

Harlan Nissen, past president of the National Association of Refrigerated Warehouses, and Watson Rogers, president of the National Food Brokers Association, as well as Burton Prince, president, National Wholesale Frozen Food Distributors, Inc., all placed their organizations squarely behind any industry-wide promotional and merchandising campaign.

Deputy Administrator E. A. Meyer, Production and Marketing Administration, USDA, painted a hopeful picture of food demands for the coming year but he carefully emphasized a growing buyer discrimination.

Dr. Ernest Wiegand of Oregon State college offered a set of quality standards for frozen food packers with the notation that unless the industry adopted some standards voluntarily, the government could be expected to fill the void.

A highlight of the convention sessions was a radio broadcast by Fulton Lewis, Jr., who devoted about half his time to lauding the infant industry. He was later presented a silver plaque for aid to the industry.

Before the convention ended, Mayor Roger Lapham, who welcomed the delegates to the city, had officially invited the exposition to return to San Francisco in 1948. Officials, however, voiced the belief that the next show would be held on the East Coast, probably Atlantic City.

### FF Packers May Set Up All-Industry Council

SAN FRANCISCO—Adoption of tentative quality standards and plans to create an all-industry advisory and merchandising council featured the three-day business session of the National Association of Frozen Food Packers, here March 19-21.

In opening the sessions, E. E. Huddleson remarked that the scope of the exposition "is far and away above anything any of us expected." In its closing meeting, the association voted to continue yearly independent conventions and industry shows. The time and place will be decided at a future director's meeting.

Karl Norton, Standards Brands, Inc., was named chairman of the technical committee on quality standards to investigate final adoption of tentative quality standards accepted

by the association. He will meet with representatives of all allied industries to discuss all the problems involved.

While not disclosing the nature of the quality standards nor the extent to which they go, C. Courtney Seabrook declared that the tentative draft was drawn up by a committee of the packers. He acknowledged that university research laboratories had presented proposals but added that the standards were the result of the packers' own experience.

Full details will be released in about two months, he said.

The association also approved a resolution favoring more descriptive labelling on frozen food packages and a committee will be appointed to deal with this question.

For the first time, the packers indicated that they were favoring an institutional merchandising and publicity campaign for the entire industry for the joint purpose of selling the retailer and the consumer. An all-industry committee will meet shortly to work out the details. Representatives from all over the country, meeting behind closed doors, urged speedy action on an educational program.

Secretary Martin announced that the association membership had been increased to 96 packers representing over 85% of the frozen food vegetable pack and an additional 70 members represented the fruit processors. He revealed that the association would begin to recruit, as "associate" members, suppliers and manufacturers in the industry.

The directors also voted additional funds to enlarge the Washington, D. C. staff and laboratory.

Mr. Seabrook, Deerfield Packing Corp., Seabrook Farms, N. J., was elected president of the association replacing Mr. Huddleson, who acted as convention chairman.

Other officers elected included: F. J. Becker, Gresham Berry Growers, Gresham, Ore., first vice president; and Joseph Braden, Richmond-Chase Co., San Jose, Calif., second vice president. Lawrence S. Martin was reappointed secretary-treasurer in charge of the Washington office.

### Jacobs Elects Ruggles, Lyhne, Vice Presidents

DETROIT—William S. Lyhne, general manager of the Indianapolis division of the F. L. Jacobs Co., and E. A. Ruggles, general manager of the company's spring division at Danville, Ill., have been elected vice presidents of the company, Rex C. Jacobs, president, has announced.

Mr. Jacobs also announced that the board of directors had declared the regular quarterly dividend of 6 1/2% cents on the company's 5%, \$50 par value cumulative convertible preferred stock. The dividend is payable April 30 to stockholders of record April 15, he said.

New vice president Lyhne, whose plants turn out the Lauderall automatic home laundry and Coca-Cola bottle dispensing machines, is a graduate of Georgia Tech. He gained his early business experience in his father's plant, the Bridgeport Metal Goods Mfg. Co. at Bridgeport, Conn. He has since acted as consultant on engineering and management problems for various industries here and in five other countries.

### Detroit ASRE Will Hear Jefferson, Sanger April 7

DETROIT—"Vermiculite Insulation" and "Cabinet Finishing" are the two topics scheduled for discussion at the April 7 meeting of the Detroit Section, American Society of Refrigerating Engineers, to be held at the Rackham building here.

Cecil Jefferson of Universal Zone-lite Insulation Co. and R. N. Sanger of E. I. du Pont de Nemours will be the speakers. Dayton L. Prouty has been named chairman for the evening, which will also include election of officers for the coming year.

### Sales, Service Firm Opens

LOS ANGELES—Holbrook Refrigeration Sales & Service Co. is the firm name under which Charles W. Bush and Forrest E. Hershey have published a certificate that they are conducting business at 1514 W. Seventh St. here.

*it's New! it's Different!*  
ALL-STEEL, O-P-E-N SELF-SERVICE  
*Paley* ISLE DISPLAY CASE  
for DAIRY PRODUCTS and MEATS



featuring...  
DOUBLE-COIL  
"FORCED-DRAFT"  
Refrigeration

these Paley exclusive advantages give you  
SUPERIOR PERFORMANCE, GREATER ECONOMY, FOOD PROTECTION!

- Double-Coil "Forced-Draft" Refrigeration economically re-circulates cold air, gives uniform temperature control throughout case, regardless of merchandise placement or store temperature!
- "See-through" plate glass panels on both sides, to promote sales on both aisles!
- 14-ga. Bonderized all-steel outer shell and under-carriage; welded, moisture-sealed seams!
- 16-ga. all-aluminum interior, racks, shelves, doors! Ample storage space!
- Stainless steel capping, heat-treated white enamel finish, chrome hardware!
- Fluorescent lighting, menu panels on both sides for greater store-wide display!
- Length: 84 inches; Height: 62 inches; width: 33 inches.

IMMEDIATE DELIVERY • WRITE TODAY

**Paley** Manufacturing Corporation  
ENGINEERED REFRIGERATION EQUIPMENT  
244 Herkimer Street • Brooklyn 16, N. Y.

## New 'Freons' Designed for Low Temp Jobs; Tips Given on General Use of Refrigerants

MONTREAL, Que.—Two new refrigerants have been developed by Kinetic Chemicals, Inc. They are "Freon-13," which boils at -115° F., and "Freon-14," which boils at -198° F.

To date, these have been produced only in limited quantities, but it is expected that they will ultimately become generally available, according to R. L. Williams of Kinetic, who spoke at the eighth annual conference of the Interprovincial Association, Refrigeration Service Engineers Society at the Mount Royal hotel here recently.

Discussing the development of the "Freon" group of refrigerants and the field covered by each, Mr. Williams outlined the usual range of applications for the six "Freon" refrigerants already in use.

"F-11" with a boiling point of 75° F. is usually limited to use in centrifugal compressors of more than 50 tons. "F-12" with a boiling point of -22° F. can be employed in reciprocating, rotary, or centrifugal machines. "F-21" (48° F. boiling point) finds use in rotary, centrifugal, and absorption type units.

"Freon-22" boils at -41° F. and is used in centrifugal and reciprocating compressor, while "Freon-113" boils at 117° F. and is intended for centrifugal compressors over 25 tons. "Freon-114" boils at 38° F. and is employed in rotary and centrifugal machines.

"The new refrigerants—'F-13' and 'F-14'—were developed in line with the general trend of the refrigeration industry toward lower and lower temperatures," indicated Mr. Williams, who emphasized that the whole "Freon" group was developed originally to provide a refrigerant that was "flexible, easy to manufacture, cheap in cost, and safe."

The term "safe," he explained, means that the refrigerants must be non-flammable, non-explosive, non-irritating, non-toxic, and non-odorous; that the products of decomposition give adequate warning in the event of a leak and have no effect on flowers, fruits, and foods being refrigerated.

"The fact that all the 'Freons' are non-corrosive gives the equipment manufacturer wide latitude in his choice of materials," he declared.

There is some corrosive effect with aluminum and magnesium, but this is caused by water, not the "Freon" itself, according to Mr. Williams, who added that these refrigerants have a "high solvent capacity" for natural rubber, while synthetic rubber is not affected.

When ordering gaskets and packing materials, it is wise to inform the manufacturer or supplier which "Freon" these items will be used with to insure satisfactory operation, he suggested.

Use of glycerin, ethylene glycol, and anti-freeze compounds in general is not recommended for "Freon" systems, because the hygroscopic characteristics of these in combination with the oil and refrigerant may result in the formation of sludge, he declared.

In selecting a refrigerant for job, the matter of cost enters in, but, suggests Mr. Williams, the choice should be based on the overall utility of the refrigerant, not the cost alone. He also pointed out the cost of refrigerant in the average refrigerator is much less than the cost of the cabinet finish.

## Senate Urged to Pass Bill Suspending 4-cent Copper Excise Tax

BUFFALO—Support for a bill, already passed by the U. S. House of Representatives, that would suspend for two years the four cent per lb. excise tax on all copper imports, is reaching the Senate from industry sources.

Edmund R. Walker of the Fedders-Cuigan Corp. here recently dispatched a telegram to Senator Irving M. Ives, Republican of New York, stating:

"The present shortage of copper already has caused us to shut down the flow of radiators to two truck manufacturers. Unless the bill re-

ceives immediate consideration, the growing copper shortage in this country will result in our being unable to produce required radiators, refrigerator parts, and heating equipment."

Frank J. Wineman, assistant treasurer of the Ross Heater & Mfg. Co. wired Senator Ives: "Unless the bill is acted on immediately, the copper shortage will result in large scale unemployment."

## Wilkes Forms Division To Handle Commercial

DALLAS, Tex.—Wilkes Equipment Co. here has formed a new division to handle commercial refrigeration equipment, including installations in restaurants, stores, and institutions. Jack Tueriff will head the new division, which will cover the entire state.

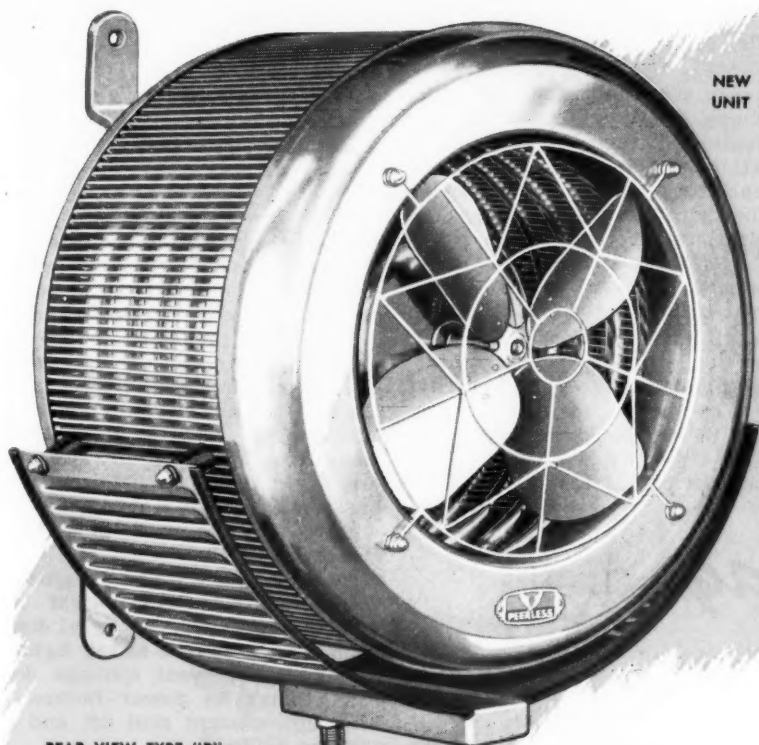
## Airtrol, Inc., Organized As Schnacke Distributor

PHILADELPHIA — Airtrol, Inc., distributor of Schnacke condensing units for the Philadelphia area, was formally organized at a meeting here recently.

President of the new company is Lt. Col. William H. Hollingsworth, U.S.M.C. (Ret.), veteran of both world wars.

Incorporated for the purpose of engineering, designing, and distributing all types of air conditioning, refrigeration, and air handling equipment, Airtrol, Inc. maintains offices at 208-10 Chancellor St.

Other officers of the firm include Walter E. Eveland, vice president, and William E. Farrell, sales manager.



NEW TYPE "R" UNIT COOLER

**NOW AVAILABLE!**



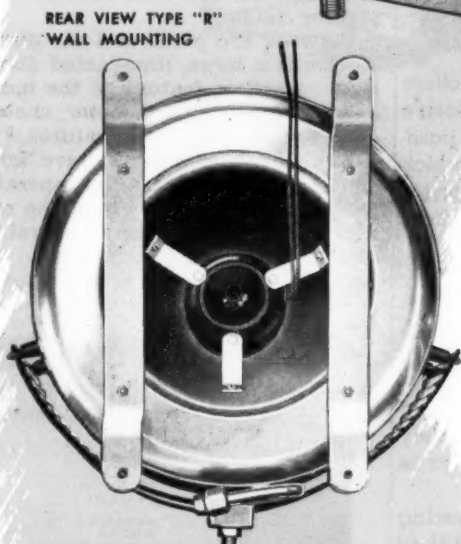
## The New... PEERLESS UNIT COOLERS

See these gleaming new PEERLESS beauties and marvel at their efficient performance. They are the Unit that every Refrigeration man needs for "that" forced convection job. Performance is the byword and performance means maintenance of required temperatures in "that" walk-in or reach-in cooler. Constructed of non-ferrous metals, all aluminum case, aluminum fins and copper tubing for highest rate of heat transfer. Ease of installation and mounting was one of the prime requisites in the design. They occupy minimum and cool maximum space, giving more refrigeration value per dollar. Sizes are graduated to provide the one needed for every job. Casings are highly polished aluminum. Hangers are aluminum. Coils are constructed of aluminum fins and copper tubing. They're beauties and beauties that perform!

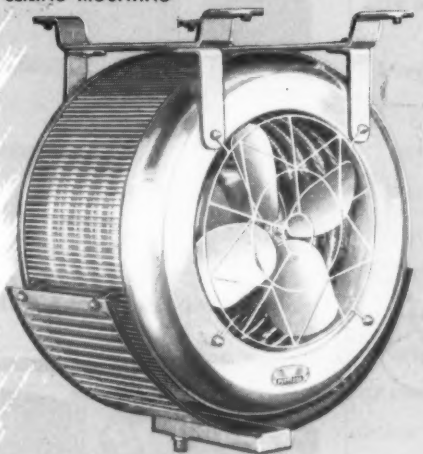
The Type "R" Circular Unit Cooler draws in air from all sides and the center blower fan diffuses it evenly throughout the refrigerated space. The Aluminum air-flow drip pan is removable for quick access to the expansion valve. Fan Motor is installed in aluminum housing at rear of unit and not in the air stream. The Circular Type "R" Unit Cooler is a dual purpose unit in that it can be installed on the wall or in a vertical position on the ceiling.

The Type "S" Square Unit Cooler of all aluminum and copper tube construction, is a small, compact unit, a real dynamo of refrigeration. The ideal piece of equipment for beverage coolers, back bars, direct draw beer coolers, display cases and reach-in boxes.

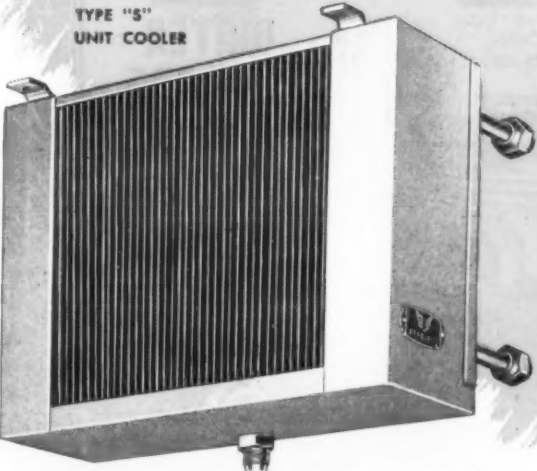
Designed for superior aerodynamic performance, the new PEERLESS Unit Coolers are in the PEERLESS tradition of performance and quality. Specify them!



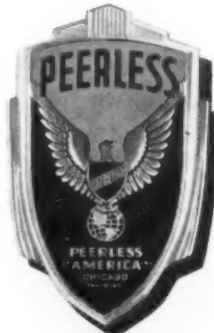
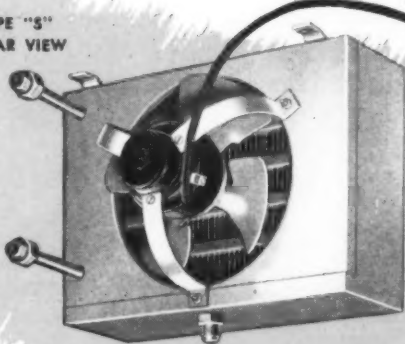
TYPE "R" UNIT COOLER CEILING MOUNTING



TYPE "S" UNIT COOLER



TYPE "S" REAR VIEW



SOLD THROUGH LEADING REFRIGERATION SUPPLY WHOLESALERS

**PEERLESS OF AMERICA, Inc.**

General Sales Office

2901 LAWRENCE AVE.

CHICAGO 25, ILLINOIS, U.S.A.

## Kaiser Dishwasher Needs 40-lb. Water Pressure

PHILADELPHIA—Water pressure of at least 40 lbs. pressure is required to operate the new Kaiser jet dishwasher, salesmen are telling prospects at Gimbel Bros. store here.

This requires a survey of the prospect's home by a factory or store representative before the sale goes through.

Of the four styles being offered, the standard cabinet model has proved most popular. The others include a standard chassis, deluxe chassis, and a deluxe cabinet, with prices ranging from \$127.15 to \$195.80.

Kaiser recommends the use of "Chat," a liquid detergent, with the dishwasher, and advises users to wipe the baked enamel finish dry after using to prevent marring of the enamel or chrome finishes. This detergent is being distributed through Kaiser outlets now, but it is planned to make it generally available later.

## Kingsly Appliance Co., Inc. Set Up In Los Angeles

LOS ANGELES — Kingsly Appliance Co., Inc. has been formed in Los Angeles County, with a capital of \$100,000. Directors are Frank A. Schumacher and Dorothy H. Schumacher, both of Beverly Hills, Calif.; and Robert S. Anderson, of Los Angeles.

# Automatic Frozen Food Dispensers Undergoing Tests In Supermarkets

## Philadelphia Store Has 3 Dispensers

CHICAGO—Frez-O-Mat, an automatic self-service frozen food and ice cream dispenser, is showing up in more food stores in metropolitan areas.

The upright unit, which holds about 900 to 1,000 average-size packages in the 35-compartment display section and the two-compartment storage section, is being manufactured for Frez-O-Mat Sales Corp. here.

Recent production was earmarked for such outlets as the Food Fair stores in Philadelphia, the Grand Union stores in New York City, the First National stores in Boston, the Pick-N-Pay stores in Cleveland, the Jewel Tea stores in Chicago, and the Wrigley stores in Detroit.

"We are now gearing up our organization to take care of the anticipated demand for Frez-O-Mats based upon orders that we have been receiving along with thousands of inquiries from all sections of the country," said Milton Rifkin, president of the sales corporation.

First multiple installation was made a few weeks ago in a new, \$500,000 Food Fair store at City Line Ave. and 53rd St. in suburban Philadelphia. Three Frez-O-Mats were installed in this huge supermarket, which covers 20,000 sq. ft.



"Everything within arm's reach" is one of the important claims made for the Frez-O-Mat frozen food dispenser.

Another multiple installation, the first in the Detroit area, is scheduled for the end of March when Wrigley will have two units in its remodeled suburban store in Ferndale. A single dispenser has been in service since late last year in Wrigley's market on W. Davison Ave.

Frez-O-Mat combines display, stor-

age, and compressor housing in a cabinet 80 in. high, 66 in. wide, and 36 in. deep. It is constructed of steel inner and outer sheathing of 18 gauge or heavier and finished in white baked enamel.

The display section consists of seven vertical rows of individual compartments and five horizontal rows occupying approximately 28.67 cu. ft. Capacity of each compartment is about 12 to 16 average-size packages, giving a total capacity of 420 to 560 packages.

To select a particular variety of packaged frozen food, the shopper merely opens the door of one of the compartments and the package is automatically dispensed into the hand. On the face of each door is a facsimile of the packages in the compartment, and the price.

This easy accessibility of merchandise to eye and hand is one of the main features stressed by the sales corporation. Declaring that "stooping, reaching, searching, and fumbling for merchandise is contrary to all principles of successful self-service operation," the firm claims all 35 items are within arm's reach from a natural standing position.

Below the display section is the storage section composed of two separate compartments, each approximately 5.09 cu. ft. in size. These hold 220 to 290 packages apiece or a total of 440 to 580.

Across the top of the dispenser is

## Shoppers Seem Interested



Recently installed in a new outlet of Food Fair Stores, Inc., this bank of three Frez-O-Mat automatic frozen food dispensers apparently attracts customers. Product labels are displayed on the individual doors, each compartment holding approximately 16 packages upright. There are 35 compartments in each dispensing unit.

a panel comprised of what are claimed to be exclusive Frez-O-Mat features, an electric stock indicator and safety informer signal lights.

The stock indicator on the latest model consists of a single row of 35 lights corresponding to the 35 display compartments. Whenever a compartment requires restocking, its companion light goes on. The lights are wired to go on before the compartments are completely sold out and to stay on until the compartments are refilled.

At each end of these lights is a white safety informer light which goes out when any electrical disturbance occurs. These safety lights are intended to prevent spoilage due to such things as power failure, fuse blow out, current shut off, and compressor failure.

Between the panel and the display section is a large, illuminated display sign. Another feature of the unit is a visible dial thermometer showing correct operating temperatures.

Equipment is said to have ample capacity to maintain an operating range of 10° to -10° within the cabinet under normal room temperatures and normal usage conditions. The equipment includes a ¾-hp. aircooled

Servel Model Z, Universal Model FF, or equivalent compressor; a ¾-hp. Century motor; and a McQuay finned tube coil or equivalent evaporator.

Insulation consists of 5 in. of Fiberglas.

Defrosting is described as automatically timed for twice every 24 hours. An electric heater cable and hot gas are used for this purpose.

Except for the information that the machine has "various mechanical innovations and other features," further descriptions of operational functions were not immediately available.

Shipping weight of the dispenser, which has a removable back panel, is given as about 1,400 pounds.

According to the sales corporation, Frez-O-Mat "is the direct result of a six-year study by its inventor while an operator of a large-volume, self-service store." It is pictured as built to the needs of a retail self-service store operation and designed to customers' buying preference "because the inventor surveyed their desires right at the point of sale."

In addition to stressing accessibility of merchandise, the firm makes the point that the packages are displayed row upon row, "as easy to buy as canned goods."

## Safe protection all the way . . .

WITH

## KOLD-HOLD

In every stage of food processing Kold-Hold offers superior refrigeration at lower cost. In the exclusive Kold-Hold Serpentine design, the refrigerant passages are an integral part of the plate itself which means that 100% of the exposed surface is prime cooling surface. Kold-Hold Plates produce required temperatures with less equipment . . . freeze quickly and defrost easily. One surface of the plates is flat, giving maximum contact and high heat absorption.

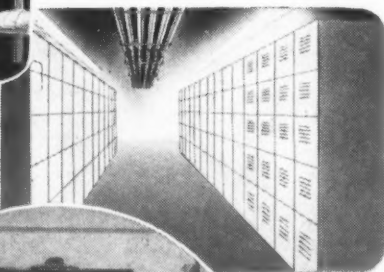
Kold-Hold Hold-Over Truck Plates hold truck bodies at desired temperatures thru a full day of operation. Then, at the end of a run, the plates can be plugged into the plant refrigeration system for recharging. Undelivered perishables remain safely in the cold truck overnight and are ready to go in the morning.

No matter where you stand in the food processing and distribution line, you will find that Kold-Hold offers you advantages that no other plate can give. Your nearby Kold-Hold Jobber is ready to serve you.

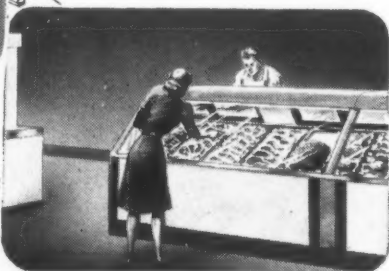


On the farm Kold-Hold cabinet liners serve in milk coolers and farm freezer cabinets.

In the processing plant Kold-Hold Plate Stands assure faster, more thorough freezing.



In the storage plant Kold-Hold Plate Banks hold required temperatures with less equipment.



In the retail store Kold-Hold Cabinet Liners keep frozen foods at proper temperatures.



At home Kold-Hold Cabinet Liners in many popular makes of home freezers and storage cabinets.

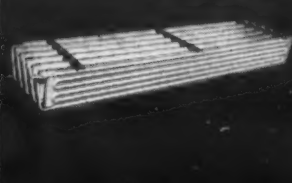


Plate Banks for space cooling of large areas.

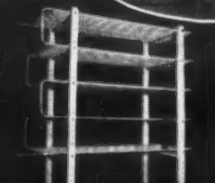
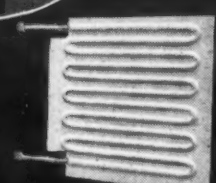
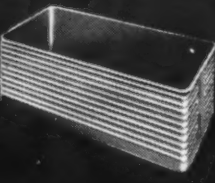


Plate Stands for sharp freezing and hardening.



Serpentine Plates for Fountain Conversions.



Liners for freezers, cabinets and coolers.



Hold-Over Truck Plates for perishables in transit.

## KOLD-HOLD

Jobbers in Principal Cities

protects every step of the way

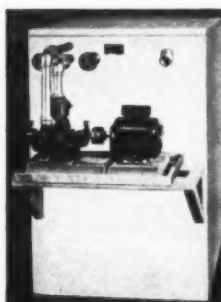
STORAGE

KOLD-HOLD MANUFACTURING COMPANY - 500 E. HAZEL ST., LANSING 4, MICHIGAN



"Displaying" the frozen foods "row upon row" makes selection and purchasing of frozen foods from the Frez-O-Mat the same as with canned goods, thus not changing the housewives' shopping habits, points out the unit manufacturer.

**Filtrine**  
HIGH EFFICIENCY  
**WATER COOLERS AND FILTERS**



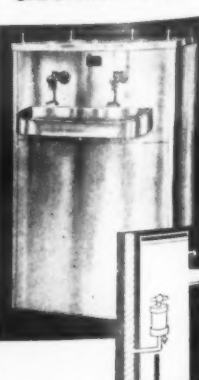
INDUSTRIAL TYPE 34° TEMPERATURE

for  
**DRINKING WATER AND INDUSTRIAL PURPOSES**

**FILTRINE MFG. COMPANY**  
53 LEXINGTON AVE.,  
BROOKLYN 5, N.Y.

Manufacturers of  
Water Coolers &  
Filters for over  
40 Years

**STAINLESS STEEL CAFETERIA COOLER**



**FILTRINE FILTERS FOR PURE, SPARKLING, CRYSTAL-CLEAR, TASTE-FREE WATER**

## Chicago Contractors Organize and Become 20th Member of NARC

CLEVELAND—Organization of the Refrigeration Contractors Association of Chicago and its affiliation with the National Association of Refrigeration Contractors has been announced at N.A.R.C. headquarters here.

The Chicago group is the twentieth to join the N.A.R.C.

Officers of the new association are: L. C. Anderson of McCarty Bros., president; L. A. Odorizzi of L. C. Kohlman, Inc., vice president; George Howe of Accurate Electric Refrigeration Service, secretary-treasurer; and Thomas Reedy of North Town Refrigeration Corp., sergeant-at-arms.

The board of directors will comprise the officers and Alphonse Gerat of A G Refrigeration Co., Harvey Miller of Murphy & Miller, Inc., L. Sundberg of C. E. Sundberg Co., Albert Weil of Refrigeration Maintenance Corp., and H. E. Wheeler of Air Comfort Corp.

Regular meetings will be held on the first Tuesday of every month, it was announced. The association is already conducting a membership campaign and is making plans to employ an executive secretary, it was reported.

## Burned-Out Locker Plant Rebuilt In Less Than Year Despite Material Shortage

SYRACUSE, N. Y.—Less than one year after its old locker plant was completely destroyed by fire, the Feldman Farm & Home Center at Milford, Ohio, has opened a new locker plant.

Despite material shortages and high construction prices, the new plant, equipped throughout with refrigeration and air conditioning machinery made by Carrier Corp. here, was built in time to be opened March 1. The refrigeration job was handled through the Cincinnati Air Conditioning Co., Carrier dealer for the Cincinnati area.

The new locker plant is believed by Donald R. Florea, president and manager of the Feldman Farm & Home Center, to be one of the largest and finest of its type in operation in the world.

The locker room is 76 ft. by 63 ft. and contains 2,300 lockers. Provisions have been made for more than double this number in the future. The new plant is completely fire-proofed with fire-proof insulation, and with normal wood construction replaced by steel.

## Chemical Firm To Sell Refrigeration Supplies

BIRMINGHAM, Ala. — A new wholesale refrigeration parts and supply department, part of a \$68,000 expansion, is scheduled for completion here within the next three months by the Wittichen Chemical Co.

The firm, said to be the largest locally owned industrial chemical distributor in the state, will furnish refrigeration parts for servicemen, according to Carl F. Wittichen, president.

About \$10,000 is earmarked for equipment, he stated, and the remaining \$25,000 set aside for the refrigeration supply department, will be used to purchase merchandise.

In addition to the wholesale refrigeration supply department Wittichen Chemical is spending some \$33,000 on the installation of a bulk handling station for acids and silicates for unloading tank cars, the announcement said. About 12 new employees will be needed as a result of the expansion.

## Instant Milk Cooler Helps Maintain Grade-A Quality

LOVELL, Wyo. — An instant-milk cooler housed in a separate room is a feature of the new dairy barn on the George L. Brown & Sons dairy farm near here. The barn has "milking pits" in which the operator of the milking machines stands, udder washing facilities, washroom with hot and cold running water for cleaning equipment, lavatory and locker room for workers, and a feed room with tight-fitting doors.

Milk is poured into stainless steel pipe which takes the fluid to the refrigeration room where a tank lowers the temperature immediately to reduce bacterial action and maintain Grade A qualifications for the milk.

One man standing in a 3 ft. pit milks an entire herd of 40 cows in two hours, and at the same time feeds the cows their grain rations, operates two milking machines, cools the milk, and keeps individual production records.

## Electric Utilities Need Small, Cheap Transformer

ROCHESTER, N. Y.—One of the things the electric utilities industry needs is a small, cheap transformer that can be installed right in the home, that will reduce the potential from 600 to 110 volts.

This need was outlined by Walter B. Kenyon, electrical distribution engineer of the Rochester Gas & Electric Corp., as he addressed the Central New York Section of the American Society of Refrigerating Engineers in Hotel Seneca.

Manufacturers say, Mr. Kenyon pointed out, that such a transformer would cost around \$50, whereas the utilities need one that would cost \$7 to \$8.

The increasing electrical load per customer is requiring the utilities to bring their voltage lines closer and closer to the ultimate consumer, Mr. Kenyon said, creating distribution problems. He pointed out that 53% of the local utility's equipment investment is represented by distribu-

tion installations, whereas only 40% is in production facilities.

Mr. Kenyon also warned industrial users of electrical equipment that they should determine whether three-phase current can be made available to them before they make large investments in three-phase equipment for their plants.

Lloyd H. Downing, chairman of the section, presided at the meeting. The engineers visited the RG&E's steam generating plant in the afternoon.

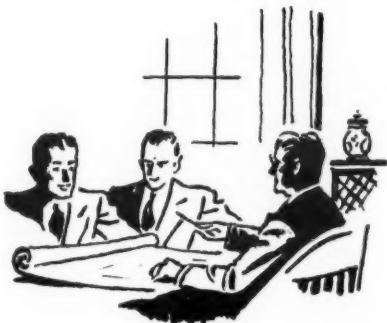
## F. H. Langsenkamp Co. Opens Evansville Branch

INDIANAPOLIS—F. H. Langsenkamp Co., refrigeration parts and equipment wholesaler with headquarters here, formally opened its branch wholesaling establishment at 118 N.W. First St. in Evansville on March 29.

Paul Radley will be manager of the Evansville operation, which will serve the southwestern Indiana, western Kentucky, and southeastern Illinois areas.

# Their money says "Detroit"

## EXPANSION VALVES ARE BETTER

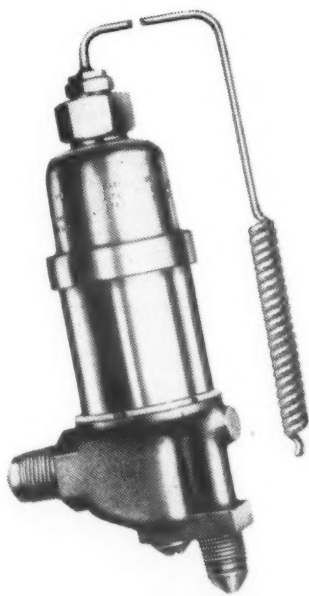


The manufacturer of refrigeration equipment—the wholesaler—the dealer—the installer and maintenance man—demonstrate their preference for "Detroit" Expansion

Valves in the most practical way—with their money when they buy valves.

Thousands waited for "Detroit" Valves during the period of scarcity, demand them now, and recommend them as the most desirable valves.

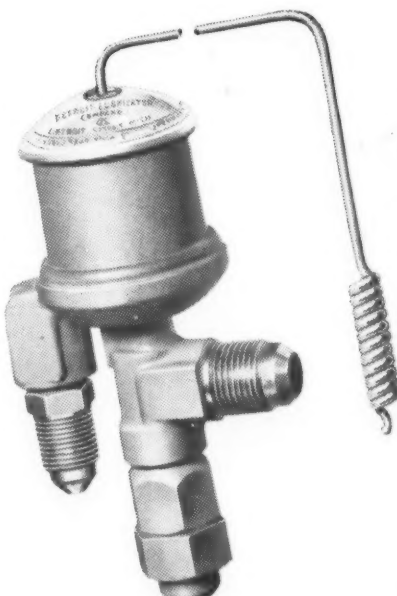
"Detroit" dependability—excellence of design and manufacture—"Detroit" Gas-Charging—are advantages which have earned this preference.



No. 673—"The Standard of the Refrigeration Industry"

"Detroit" No. 673 has a long record of dependable performance in a wide variety of installations, and has been, for many years, "the standard of the refrigeration industry." Designed for average-size commercial and air conditioning installations. Sensitive and accurate in operation—gas-charged for instant response and reduction of motor load during pull-down cycle. Duraflex bellows and Delubaloy needles and seats resist corrosion and assure long life.

UNIT NUMBERS OF No. 673 VALVE			
Use "Detroit" Unit Numbers when ordering these stock items from your "Detroit" Wholesaler.			
Unit No.	Refrigerant	Max. Pressure	Connections
6731968	Freon-12	15	Inlet: 3/8" SAE for 3/4" x 1/4" Reducing Nut. Outlet: 1/2" SAE
6731428	Freon-12	55	
6731563	Methyl	10	
6731411	Methyl	40	
Rated at 1-ton Freon-12 or 2-ton Methyl.			



No. 573—The Same Superior Performance as the No. 673 for Smaller Installations

The "Detroit" No. 573 has been produced in response to a demand for a valve for smaller installations which would have the performance of the "Detroit" No. 673.

No. 573 has the same operating characteristics—the same dependability and adaptability as the 673. Designed for small commercial installations, its double diaphragm construction with gas-charged power element permits close superheat control at low suction pressures and provides motor over-load protection in its simplest, most effective form, using only one power element.

UNIT NUMBERS OF No. 573 VALVE			
Use "Detroit" Unit Numbers when ordering these stock items from your "Detroit" Wholesaler			
Unit No.	Refrigerant	Max. Pressure	Connections
57300	Freon-12	45	<i>Inlet:</i> 3/8" SAE for 3/4" x 1/4" Reducing Nut. <i>Outlet:</i> 1/2" SAE for 1/2" x 3/4" Reducing Nut.
57309	Freon-12	10	
57311	Methyl	35	
57315	Methyl	5	
Rated at 1/2-ton Freon-12 or .9-ton Methyl.			

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# Will Inventories Become a Major Problem To Refrigeration Parts and Equipment Wholesalers?

CHICAGO—Do refrigeration parts and equipment wholesalers have inventories that constitute a critical problem at this time?

The situation is not quite that, but the situation is one that needs calm and intelligent consideration by both the supplier and wholesaler, reported Harold R. McCombs of McCombs Refrigeration Supply Co., Denver, Col., to the annual convention of Refrigeration Equipment Manufacturers Association in Chicago last week. Mr. McCombs, a past president of R.E.W.A., was a member of the manufacturers' relations committee of the association during the past year, and that group has been giving some special attention to the matter of inventories.

Mr. McCombs had words of advice to both wholesalers and manufacturers.

To the wholesaler he advised, don't be in too big a hurry to cancel your orders. "Re-schedule" wherever possible, so that the big order which might make it tough if received all at one time, can be spread out over several months.

To the manufacturer, he said, try to concentrate on the items that are in short supply, and in greatest demand. And check with the wholesaler before making a shipment that might, in ordinary circumstances, seem "abnormal."

Following are excerpts from Mr. McCombs' talk on "Will the Whole-

saler's Inventories Become a Major Problem in 1947?"

"For the past few years we have all lived the Life of Riley as far as sales and inventories were concerned. Sales volume and demand reached such a high point that large commitments with our suppliers became commonplace. In fact in order to obtain 100 items it was necessary in some cases to place an order for 1,000. Orders piled on orders which we looked at in amazement sometimes, but dismissed the fear that there was too much on order with the belief 'that we wouldn't get any anyway.'

"The fact was, however, that during this period when we 'were not getting a thing' inventories climbed. This dangerous increase in inventories was camouflaged by an overwhelming sales volume.

## How Inventories Grew

"However, a closer check revealed that the sales volume was being increased by the hard-to-get items which were not going into inventory. They were just being tagged and shipped right out. Back orders piled up so when a shipment was received either all or most of the items were sold.

"While all this was going on the corners and the bins began to fill up with normally slow moving items which were ordered in larger quan-

ties than usual because, it seemed you could sell anything no matter what shape, quality, or price. It really did not matter if you received 100 of an item even though your normal stock would be 10. It would sell and at least you had enough of one thing anyway.

## Normal Reaction Took Place

"This condition continued, sales going up, inventories going up. Very suddenly last fall the normal reaction took place. More and more attention was given to inventories, notes were compared, and the decision was that it was high time to do something about it.

"Factories began to receive cancellations, surplus lists appeared in volume, and the word 'watch your inventories' spread.

"Many failed to check their commitments and this found some wholesalers with deliveries on their receiving platform in volume far beyond their needs. In many instances this was caused by the fact that the supplier had received so many cancellations that delivery was stepped up many months for those who did not cancel.

"Another condition which was beyond the control of our suppliers appeared during the past two years. Material would finally be obtained to manufacture one particular item. The wholesaler in many cases had a

years supply on order, not even hoping to obtain this quantity within the year. But out of a blue sky here would come the whole works, only to be put on the shelf.

"The items that our customers were clamoring for, however, were not forthcoming. So in many cases even if future shipments were cancelled or rescheduled, we found too much of too many items and none of the ones in demand.

"Many of our suppliers began to wonder about this turn about face and all these cancellations. What was the matter? Had the wholesalers market disappeared? Or had these accounts obtained a new source of supply. Your manufacturer's relation committee anticipated this and asked for a meeting with R.E.M.A.

"At this meeting we explained that our sales volume was still up. There was nothing wrong except we all had reached the readjustment period that has been talked about for years. It was true it had burst out on us very suddenly, but we urged them to just take it easy. We just wanted to get our feet on the ground and take a fresh start.

## Suggestions to Manufacturers

"These readjustments were outlined as follows:

"1. The wholesaler can no longer be expected to accept shipment for a year's supply even though the supplier must throw his entire production on that item due to availability of material. To remedy this there is only one solution and that is for the manufacturer to again carry some stock as he did before the war. This must be done because certainly we cannot continue to take everything in any quantity as it drops off the end of the production line.

"2. The manufacturer should whenever possible attempt to step up or concentrate his production on the items that are still in short supply. This, of course, is not easy for the simple reason that if material was available for that item he would turn it out fast. However, if he could take some material that is going into items that are running out of our ears and divert it to the critical ones it would help. Anything possible along this line will tend to level out the supply.

"3. The suppliers should check with us before making an abnormal shipment. This is as much to his interest as to ours because he wants and expects to continue to be paid.

## Advice to the Wholesaler

"That, briefly, is one side of the fence. The other side is ours.

"The things I think the wholesalers should do are as follows:

"1. Before you cancel an order remember that the market for what we have to sell will be larger this year than last. Your sales volume for January and February will give an indication of that.

"Also, do not get the idea that everything is in good supply. We only have to look at copper, steel, 'Freon,' and motors to dispel that idea.

"Rather than cancel try to 're-schedule.' Spread that order out that would hurt if you received it all at once, over a period of three to four or five months. This is not only fair to our suppliers, but will help him.

"If you cannot do this cancel it. After all you are the only one who can run your business and if you allow shipments to come through that you can't turn over you are the main one to pay the price.

"2. When I was trying to find some diplomatic way to say what I was thinking here, I happened to pick up a copy of the *Saturday Evening Post* dated Jan. 18, 1947. On the front page was a picture of Benjamin Franklin and one of his philosophies. It read:

"'Friends and neighbors, the taxes are indeed very heavy, and if those laid on by the government were the only ones we had to pay, we might more easily discharge them; but we have many others, and much more grievous to some of us. We are taxed twice by our idleness, three times as much by our pride, and four times as much by our folly. And from these taxes the commissioners cannot ease or deliver us.'

"This was so close to home with me and fitted the picture so perfectly that I took it to heart and admitted it.

## Selling Effort Moved Some

"Instead of expecting my supplier to do everything about my inventory problem, I realized that I hadn't really sold anything for years. This was idleness. To prove that, I got busy and within a week my very abnormal inventory on valves was reduced to a point where I had to wire for more to complete some of the orders.

"The next thing I realized was pride. I sure did hate to cancel an order. It hurt my pride. But I finally decided that to have my business in a good position was more important than pride.

"The folly thing hit me right in the middle. Hadn't it been folly to expect things to run on forever with too much on order, and sales increasing without too much effort? It was

(Concluded on next page)



## "I like its easy accessibility."

Refrigeration engineers who have examined and watched the performance of the new Mills Direct Drive Compressor tell us — enthusiastically — that it is exceptionally easy to maintain and repair. This is because, as our own engineers believed when they designed it, each assembly and each part are readily accessible.

Small and compact though it is, the Direct Drive has all of the service advantages of open type units. No larger than comparably rated hermetic compressors, it has no enclosing hood to make factory repair essential. Instead, it can be put back into operation "on location."

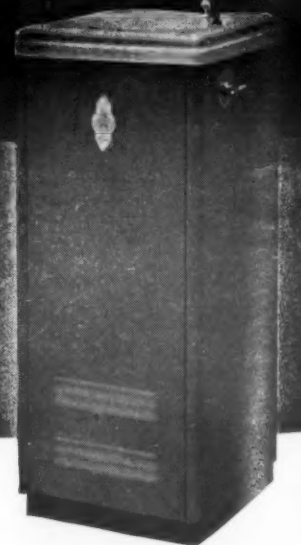
Its light weight, small size, and high standards of efficiency and performance are other factors contributing to its growing acceptance throughout the industry.



## MILLS Direct Drive COMPRESSOR

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## Survey Shows Increase In Inventories, But Not Out of Proportion to Sales Increases

(Concluded from preceding page)

also certainly folly to think that my supplier never would ship that 1,000 items because sure enough he was shipping.

"I believe this is food for thought. It might be said that it is not good business to high pressure your customers into buying too much. To this I agree, however, in most cases they can use it and if they have it they will sell more. Another point is that by the time a large stock of a particular item reaches the consumer it is thinned out so it does good instead of harm.

"In other words, let's say one supplier has 1,000 of one item which is too many for him. He sends 50 each to 20 wholesalers. This is not as serious to each individual wholesaler as the 1,000 was to the one supplier. Now if each wholesaler sells one each to 50 dealers nobody is hurt. This works providing, of course, that it is a common stock item and provided the wholesaler gets out and sells them.

### What Surveys Revealed

"A recent survey made by our Executive Secretary H. S. McCloud shows inventory figures from 25 refrigeration wholesalers, which show: From Jan. 1, 1946 to Dec. 31, 1946, an overall increase of 76.09%.

"This was due in part to price increase and average inventory lower than normal to start with.

"Other wholesalers are in the same boat. Practically every manufacturer has an unbalanced inventory.

"However, Dun & Bradstreet reports show manufacturer inventories are currently smaller in relation to shipments than in 1939, even though inventories were almost double the 1939 monthly average.

"The December report on wholesalers sales and inventories from the Department of Commerce shows sales for that month 42% higher than December, 1945. Percentage change for 12 months of 1945 was plus 31% for 1946. Inventories for December, 1946, were 53% higher than December, 1945.

"Figures for refrigeration wholesalers were not included and these were a national average of other wholesalers. They show the same story, however, and that is that inventories in comparison to sales are not serious. It is the unbalanced condition that is serious, because a very high balanced inventory can be reduced much quicker than one unbalanced.

### How It Might Be Serious

"Even though the relation of sales to inventories is OK an unbalanced inventory may prove serious, to an individual who does not take some steps to correct it, or if sales were to drop suddenly.

"The fact remains, however, that there isn't much chance of sales dropping this year. The demand is still here. Each individual consumer is doing the same thing we are. They are using up some inventory. This is true whether it be a housewife or a business, but in spite of this sales volume is keeping up except in some retail lines, such as restaurants and taverns who feel the direct effect.

"It will take a few months for everybody to decide that prices are not coming down and for inventories to be used up. Then it is my belief that the demand that has been waiting will appear and this together with the normal demand we now have will give us the biggest volume we have ever experienced.

### A 'Different' Business

"This is going to be different business than we have had the past few years. I do not believe there will be the big percentage of emergency business. Rather it will be the good old fashioned competitive kind, and we will need a well balanced inventory and plenty of sales effort.

"It is my belief that the most important thing to remember with regard to inventories is that when we reach a more or less normal level on sales it will bring a normal problem on inventories. By this I mean that we will again have a reasonable business and inventories should be gauged accordingly.

"Before the war we all had an increase during the summer and a gradual decline during the winter. This, of course, varied in different territories, but was true as a national picture. Since the war the sales curve remained practically even through the year. It is important, therefore, to again tie sales and inventory together so a proper balance can be maintained."

## Commercial Credit Opens New Branches; Cites Need To Lift Restrictions

BALTIMORE—With the recent opening of a branch office in Sumter, S. C. the Commercial Credit Corp. now has 299 such offices in the United States and 19 in Canada, for a total of 318.

This number marks an all-time high for Commercial Credit and is an increase of 230 over the wartime low of 88 reached in 1943.

"This expansion is the result of a long-range program started years ago to give as many persons in the United States and Canada as possible the opportunity to obtain automobiles, radios, oil burners, and even car repairs and loans, to tide them over rough spots—as quickly, easily, and cheaply as possible," it was stated by A. E. Duncan, chairman of the board.

"However, many of the individuals it is designed to assist are still, unfortunately, hampered by the discriminating restrictions on credit and instalment financing under the wartime Regulation W.

"In effect, the man who can afford to buy a high-priced car on time can now take as long as he chooses, insofar as Regulation W is concerned, to complete his payments on a balance exceeding \$2,000. The buyer of the low-priced car—the customer whose balance on the instalment purchase of any average low or moderate-priced family car will be under \$2,000—has no choice; he must complete the transaction on terms restricted by the government."

## Gemco Production at New High In March

ST. LOUIS — Dollar volume of Gemco production in March will be more than two and a half times as great as the total for any entire prewar year, the company announced recently.

The large volume is due largely to the increasing production of air conditioners, introduced in January. Average production on air conditioners is now 30 per day, it was stated.

Production is expected to reach \$250,000 per day early next year, when the plant for production of the company's new Miracula reaches full production, according to Willard R. Vogel, Gemco vice president and general manager.

## Cushing Heads Sales for M-H Division on Coast

MINNEAPOLIS — Reginald C. Cushing has been appointed sales manager of the air conditioning controls division for the Pacific region of the Minneapolis-Honeywell Regulator Co., J. S. Locke, manager of the division, has announced.

Mr. Cushing joined Honeywell in 1935 in the installation department of the air conditioning controls division and later was promoted to salesman. During the war he worked closely with the United States Army in the design and installation of aircraft engine test cells, and is continuing that work with the Army and Navy today.

## Speed-Freeze } AN OUTSTANDING FROZEN FOOD CABINET... PROVEN BY PERFORMANCE!



20 cubic feet, self contained model

The recognized superiority of all IDEAL "Speed-Freeze" products has created nation-wide confidence and distributor preference for this outstanding frozen food cabinet.

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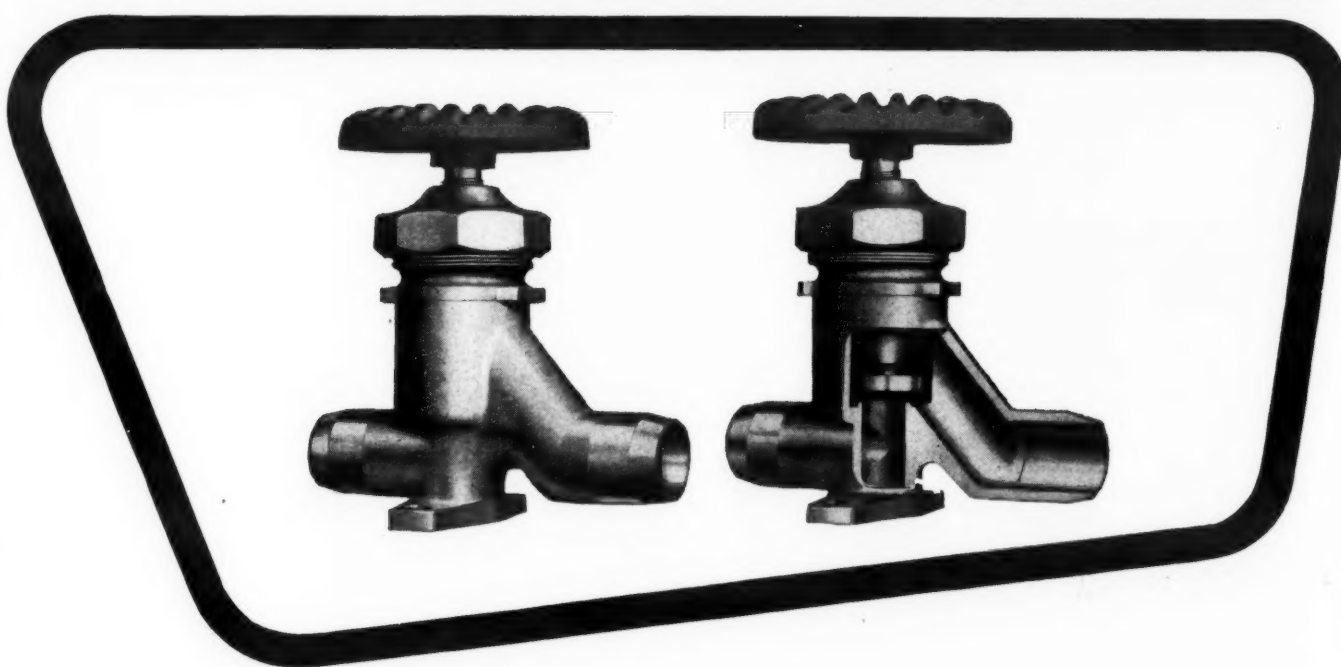
service, to insure maximum operating efficiency.

Manufactured to the highest standards, the Speed-Freeze line is RIGHT in quality, RIGHT in price... and approaches the fastest cooling known in the art of refrigeration. For additional information, write us today.

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These valves incorporate all the advantageous features of our famous TRIPL-SEAL Diaphragm Valves.

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Because of the small amount of movement, the multiple diaphragm in TRIPL-SEAL Valve is never deflected past its normal center; thus immeasurably prolonging both its life and the life of the valve in service.

The multiple diaphragm has approximately 20% increased surface area over more conventional types of diaphragms. A single turn only is necessary to open or close the TRIPL-SEAL Valve.

### TRIPL-SEAL

Positive sealing at three essential points in the valve is adequately provided for—a back seat with valve in open position,—the multiple diaphragms,—and a packing around the stem. (This packing insures constant seal between pressure lines and diaphragm chamber.)

The stem of the TRIPL-SEAL Valve is provided with a sixty degree bevel, thus procuring the most desirable wedging action for positive and easy closing. It is manufactured from Tuf-Stuf, a strong, corrosion-resistant alloy.

The stem does not rotate, and is constantly guided into the same position against the seat by a cylindrical guide, so processed as to eliminate any possibility of distortion.

The body and cap of the valve are forged brass to eliminate seepage and to withstand frost action; mounting lugs are forged integrally with the body to provide the ultimate in mounting strength.

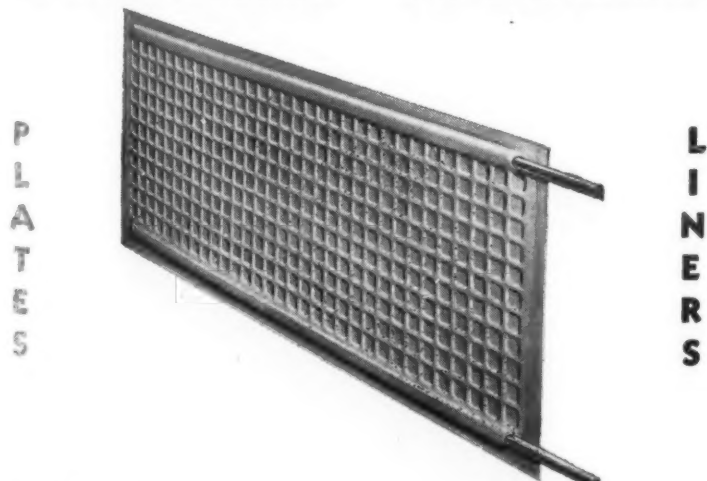
The hand-wheel is exceptionally strong, and is so designed that it provides a convenient grip for manual operation.

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## How Big for a Little City?

# \$75,000 Outlet Backs Appliance Dealer's Faith In Future of War-Boomed Small Town

PLYMOUTH, Mich.—The opening of a completely modern appliance outlet geared to serve the market of its local community marked the twentieth anniversary in business of Kimbrough's, this city's largest appliance retailer, on Friday and Saturday, March 7 and 8.

More than 750 visitors attended the formal opening of the new building, with its 4,000 sq. ft. of display space that featured the new Maytag home freezer and Dutch Oven gas range, and the new locally manufactured Pepco self-generating water softener.

Kimbrough's carries the complete appliance lines of General Electric, Philco, and Maytag; RCA and Zenith radios; and supplementary lines of furniture, paint, linoleum, and records. Its principal business, however, is major appliances and their servicing.

The story of Kimbrough's is one of how a "small town" appliance dealer can and must grow to keep apace with a growing and progressive community.

With 20 years' business experience in Plymouth, Richard L. Kimbrough, the owner, began planning his new building in 1944 in terms of the local market as he knows it. That market has been changing steadily during the last 10 years, he points out.

Ten years ago this city would have been classified, for lack of any better

single characteristic, as a community of retired farmers. The change in the nature and the number of its population since that time, accelerated by the war's emphasis on war production here and in Detroit, has been steadily urban, Mr. Kimbrough believes.

As far as being a market for home appliances, the demand 10 years ago was slow. The replacement market was negligible. The city's population was about 5,000.

The picture changed drastically during the war. The population almost doubled, and people were making overtime money. The demand for deluxe models in all appliances dominated the market.

## War Plants Draw Workers

Responsibility for the town's rapid growth belonged most of all to the great number of workers needed by such high priority industries as the Ford Motor Co.'s Willow Run plant, 25 miles southwest of Plymouth; the Burroughs Adding Machine Co.'s Plymouth plant; and Kelsey-Hayes.

Today, while the nature of local industry has changed since the war, the number of people living in Plymouth is still very close to 10,000, equaling wartime's peak figure, it has been estimated.

There was a sudden, temporary exodus after the armistice with

Germany, but within a year's time enough veterans, with their families, and enough of the people who had worked here during the war, with their families, had returned to bring the population figure back to peak proportions.

Not all these returned to work in the factories. Kaiser-Frazer's employment at Willow Run hardly approaches the 42,000 men and women that once made B-24 bombers. The Kelsey-Hayes plant since last June has been the Evans Products Co., with some 1,400 workers turning out railroad loading equipment and household space heaters and oil furnaces. The Burroughs plant, making parts for calculators and adding machines, employs perhaps 600 people.

These figures do not add up to 5,000. The greater part of the town's population increase is represented in its many small businesses, Mr. Kimbrough believes, and in its office workers, commuting between Plymouth and Detroit, 20 miles to the east. But the community itself is an independent market for appliances, not a suburban city dependent on Detroit for its money and its business.

And with home building proceeding steadily, especially in new development areas on its outskirts, the city is growing in extent.

The city is the trading center also for a productive farming area to the

west, and several smaller communities around it—Northville to the north, Farmington to the northeast, Rosedale Gardens directly east, and Garden City and Wayne to the southeast. This peripheral market is neither seasonal nor small; it accounts for 50% of the firm's annual sales.

While the local appliance market thus is made up of a different kind of population, the price models in the various appliances asked for also have changed. This has been especially true during the last few months—since the first of the year, Mr. Kimbrough reports.

During the war deluxe models were asked for, almost without exception. But in 1947 a deluxe 8-cu. ft. refrigerator stood on his display floor during January and February, delivery possible immediately. Yet no less than 15 customers looked at it, noted the price difference between the Deluxe 8 and the Standard 8—\$85—and placed orders for the latter, for which they had to wait.

The trend away from deluxe models has been consistent, Mr. Kimbrough reports. The standard models in refrigerators and ranges alike are asked for regularly.

## No Money for Deluxe Models

The over-all market is good, and will be a steady market, he believes. But the veterans and the war workers who have returned to work in gas stations and restaurants and other small businesses don't have the money to spend on the more extravagant models.

Another thing he has noticed has been the recurring demand for home freezers with processing compartments. None of the smaller home freezers he knows of includes such a feature, he has explained to his customers, and any home freezer can be used for limited processing by emptying it of its load and packing the food boxes in a single layer against each freezer wall.

But this has not answered the question, as far as the inquirers were concerned. They have wanted an individual freezing compartment, not just a storage cabinet for frozen foods. And the requests have been constant, Mr. Kimbrough states.

The opening of the new store was the first local showing of the Maytag freezer, with its features of an all porcelain inner liner, double gasket seal, full 36-in. piano type hinge, and an auxiliary receptacle that will defrost frozen foods preparatory to their use.

The container sits under the lid, but to the right of the cold compartment and over the compressor, and the warm air circulating over the unit keeps it warm.

The freezer is manufactured at Lima, Ohio, and sells for \$269.50 in Maytag's zone 1, which goes west far enough to include the company's headquarters city of Newton, Iowa. Retail figure in the deep south and far west is \$279.50.

With 6-cu. ft. capacity, the box is powered by a ½-hp. Tecumseh compressor and will hold 0° F. with a peak load, the company claims.

A sampling of dealers has been supplied so far, according to E. H. Carter, manager for Maytag's Detroit metropolitan area, who handled the demonstration of both freezer and range during the two days. All of the company's 7,000 dealers will have demonstration models of both appliances soon, he stated.

## Need Facts on Home Freezers

The biggest job ahead for the home freezer branch of the industry is education in using them, Mr. Carter believes. The public has been well sold on frozen foods, but not on the use of the home freezer.

His opinion, though independently given, jibed with Mr. Kimbrough's—that people frequently expect a processing job from their home freezers, and that it is up to the industry to show them the difference.

He cited the first-hand example of a gentleman of his acquaintance who came back from Michigan's Upper Peninsula last fall with a six-point buck. After a leisurely trip back, including stops for celebration and showing friends his kill, he reached Detroit, had the head and feet removed for mounting, and stuffed the carcass into his 8-cu. ft. box for it to freeze. The buck by this time was days old.

"When it comes time for that big venison dinner Jack is planning to throw," explains Mr. Carter, "I hope I am out of town."

High interest item on both days, however, was the Pepco automatic water softener, invented by a local

man and now being manufactured here. This was a matter not merely of local pride, but also of local need: Plymouth water, at 22 grains, has one of the highest hard-water ratings in the State.

The Pepco softener will handle up to 600 gallons daily and regenerate itself every night, automatically, at any set hour. The brine tank needs refilling only twice a year for the average family of five, it is claimed. Mineral reagent is gel type zeolite.

Manufactured by the Plymouth Engineering Products Co. under the patent of its inventor, Harry Fischer, the softener will sell for about \$225 plus an installation cost of at most \$30, Mr. Kimbrough estimates.

Once installed, its cost to run is less than 50 cents a month for the average family, according to the manufacturer. Special minerals can be used to meet varying conditions in different parts of the country.

The entertainment feature of the opening was the appearance of a Detroit composer and orchestra leader, Don Pablo, who autographed several hundred of his records sold during the two days. The store's record department is a steady traffic puller, Mr. Kimbrough reports, besides being a paying activity on its own, grossing between \$1,000 and \$2,000 a month.

Back of the major partition that divides the building into two equal areas are the parts department, shop, and warehouse.

The parts department, with a broad window opening upon the display for serving customers, has doors out to the warehouse and the shop. It carries more than 100 different brushes for major appliance motors, and a similar full inventory of bearings.

The shop ordinarily would be considered small for an organization of this size: it is only 15 x 23 ft. But warehouse space on two sides takes care of units waiting for repair, and of those that have been completed.

## Bleeds Air Pressure Tank

Since motor repairing was the business Mr. Kimbrough started out with in 1925, the shop's equipment is accurately planned and laid out for maximum efficiency. As is, the shop still handles probably the major part of all fractional power motor repairs done in the city.

An unusual feature in the shop is a small auxiliary tank used to bleed off pressure from the main air pressure tank after the compressor has shut off. When the compressor kicks on again, it can then build up to full pressure without a carryover load.

The small tank came out of a refrigerator receiver. The compressor is a 2-hp. unit delivering 80-120 lbs. pressure, and will be used for blowing parts clean, paint spraying, and eventually to power a hydraulic hoist that will make working on major appliance assemblies easier.

There is space outside for more building expansion when the time comes. With an 80-ft. front, the building goes back 100 ft. and has 56 ft. more of clear ground before hitting Harvey St., the next street south.

The idea for the present building was one Mr. Kimbrough began chewing over late in 1944. Construction began the first of this year, and was completed six weeks and \$45,000 later. Together with land and merchandise, the entire project extracted about 75 grand from the Kimbrough kitty.

But Mr. Kimbrough believes the prospect for appliance sales is good. He believes the bumper season of big deliveries and unlimited merchandise predicted for Christmas, 1945, might actually get here by Christmas, 1947.

About his plans for his local market and its needs he has even less misgiving. And, in terms of a \$75,000 investment and 20 years of doing business here, it probably isn't all guesswork.

**A MASTERPIECE in Thirst-Quenching Convenience**

**OASIS** Thirst-Quenching Convenience

You're always Sure with an Oasis-built by EBCO, pioneers in the electric water cooler field.

**The EBCO Mfg. Co.**  
401 W. Town St.  
Columbus 8, Ohio

**Q. Which store grosses 20% more?**

**A. the store that takes advantage of equipment insulated with**

**SANTOCEL**

The reason: Santocel, "the world's most efficient insulating material", makes it possible to cut thicknesses of display case and storage cabinet walls and doors in half, increasing capacity 20% to 60% and more.

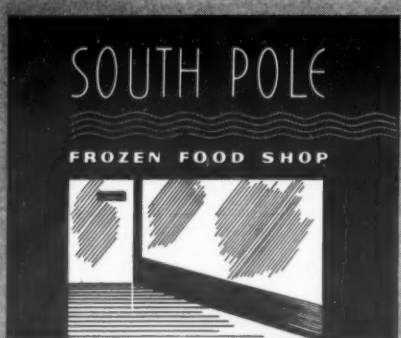
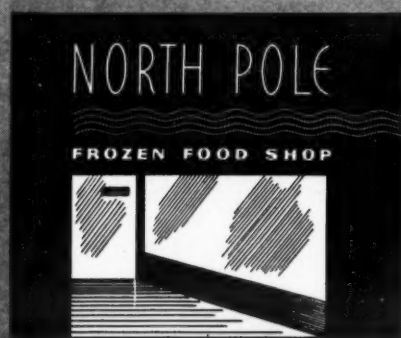
With all other circumstances being identical, a frozen food shop that can display and store 20% more will sell 20% more.

Important factor anywhere, this Santocel space saving becomes critical in high rent localities with \$9.00 per sq. ft. average annual rentals.

If you manufacture, sell or use freezer cabinets, it's good business to find out all about Santocel. Complete details are yours for the asking: MONSANTO CHEMICAL COMPANY, Merrimac Division, Boston 49, Massachusetts.

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SERVING INDUSTRY... WHICH SERVES MANKIND



**MONSANTO**  
CHEMICALS—PLASTICS

## Get Some Action In Your Displays and Pack Home Freezers With Food If You Are Going To Sell, R. H. Fredberg Advises

By C. Dale Mericle

LANSING, Mich.—If you're going to sell home freezers you must have "action" displays, contends R. H. Fredberg, general sales manager of Food Freezer Distributing Co. here.

The firm is distributor for the Bishop freezer in 49 Michigan counties comprising most of Lower Michigan, and also distributes Deepfreeze units in seven counties in the Lansing area. Whiting stokers and Bishop "Air-Mover" fans are distributed, too.

"By 'action' displays," explains Mr. Fredberg, "I mean that the dealer should have a freezer on the sales floor that is actually operating and is kept filled with frozen foods. The average housewife who opens a freezer and finds it warm and containing nothing more than a piece of sales literature will have no appreciation of what a freezer can do.

"Everyone knows, or should know, how important action is in attracting attention to a display," he continued. "Just the other day, for example, I was walking in front of a hardware store when my eyes were caught by a little outboard motor set up with its propeller whirling around in a small can of water.

"I stopped and looked. It was operating off batteries—a small electric model. Because the action display had attracted my attention, I went into the store to find out what the story was. It seems that this small outboard will operate off a car storage battery—ideal for light work. Incidentally, I wound up buying one. I merely cite this incident to show how action displays will make sales.

"At least," he emphasizes, "you have to display these things. I recall the case of a hardware dealer in a small Kentucky town who had the Deepfreeze franchise. I was then a district representative for Deepfreeze Division, Motor Products Corp. When I made a routine call on this dealer I discovered that his floor model of the freezer was still crated up in the back room.

### Make 'Em Stumble Over It

"Look, Joe," I said, "you can't expect to sell a home freezer if you keep it crated up in the back room. Get it out where people can see it, where they'll stumble over it."

"But," says Joe, "there's no room out here."

"True, the store was cluttered up, but I had noticed a big lawn swing on the floor. It took up a lot of room. Joe saw me eyeing it.

"Joe, how much do you make on each sale of that swing?"

"About \$17."

"How many do you sell in a year?"

"Oh, two or three, I guess," he told me.

"Well, Joe, you know that if you sold one freezer you'd make as much as 10 sales of that lawn swing. Why don't you move the swing into the back room and bring out the freezer. I'll bet you'll sell a freezer inside of a week if you do."

"Joe finally agreed, and went to work immediately. While Joe and his helper were shoving the freezer into the store, I walks a customer. He looks at the freezer.

"What's that?" he asks.

"A Deepfreeze," Joe and I tell

him. "Have you ever thought about getting one?"

"Well, as a matter of fact, I have thought about it."

"I took it from there," said Mr. Fredberg, "and in half an hour the customer had bought it and paid in full.

"That's an unusual example," readily admits Mr. Fredberg, "for Joe didn't set a sizzling sales record. He sold some, however, and it does illustrate the principle of getting your merchandise out where people can see it. The action, in this instance, was supplied by the moving job and the customer just happened to walk in at the right time."

### Dealers Must Know Freezers

Another principle which Mr. Fredberg follows in selecting and assisting his dealers, is to make sure

they're fully acquainted with the advantages a home freezer offers to the housewife. He believes a dealer should own and use a freezer himself.

Recently, he went into a small town where he felt there was a good market for a dealership. It didn't take Mr. Fredberg long to convince a store operator to sign up for a franchise and a floor model. But then the dealer's wife walked in.

"John," she said, "I don't think we should take on a freezer. What are they good for?"

"Right then and there," says Mr. Fredberg, "I had to sell this woman on frozen foods and home freezers. After explaining all the advantages and convincing her and her husband that they should get into this business, I decided to give her actual proof.

"I told her to buy some frozen

foods and put them in the freezer in the store, and I also told her to go across the street to the bakery and buy some rolls, bread, and pie.

"Wrap 'em up," I said, "and put them in the freezer. I'll be back in two weeks and then I'll go across the street and buy the same kind of pie. After the frozen pie thaws out, and I mix up the slices, you won't be able to tell the difference between the fresh and frozen pies."

"I'll be back there in two weeks," continued Mr. Fredberg, "and I know from experience that she can't tell them apart.

"It's things like that which have to be done in selling home freezers, not only to dealers, but to the public," he contends.

### Locker Plants Sell Freezers

Locker plants get a lot of support from Mr. Fredberg. In fact, several locker plants are dealers for the lines he represents. They are largely responsible for much of the popularity that frozen foods and home freezers have already attained, he believes, and he urges his dealers to promote and sell home freezers as an adjunct to lockers.

"We tell the dealers and the buyers that they should rent a locker or two to use with their home freezer. The lockers are ideal for bulk storage, and the locker plants are equipped and prepared to handle all processing. The home freezer can be used to supply the immediate needs of a family."

Food Freezer Distributing Co. now supplies 80 dealers in 25 Michigan counties. Within the past two weeks the firm obtained the Bishop distribution rights in 24 additional counties, including the Detroit metropolitan area.

Under Mr. Fredberg's guidance, the firm is carefully selecting dealers to avoid overlapping of sales territory. Many of them are located in small towns—rural shopping centers—for Mr. Fredberg believes the freezer market will be best in the small town and rural areas. Here farmers have meats and vegetables available to freeze for their own use, while small-town dwellers are close to farms.

The city market is good, but there is a little more potential in the rural areas for freezers according to Mr. Fredberg.

# Amana

## HOME FREEZERS

# NOW

Line Up with the Leader

# Campaign

## 53,009,952 ADS ... TELLS 'EM

### to See Amana First



HERE IT IS—Amana's great campaign that is consistently appearing in America's greatest publications. Amana—The Freezer with the National Reputation—pre-sells your customers—so it's good business for you to Line Up With The Leader now! It's good business for you to join the Nation-Wide Amana Organization—and offer your customers the complete Amana line. For details—write today.

REFRIGERATION DIVISION, DEPT.

AMANA SOCIETY, Amana, Iowa

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### TREMENDOUS DEMAND!

THE SENSATIONAL, NEW



PROTECTS  
FROZEN  
FOODS

The exclusive, self-contained warning system... sounds an alarm whenever temperature rises above danger zone FROM ANY CAUSE. Not connected in electrical system! Every freezer owner and locker plant needs one. Liberal dealer discounts. Literature available.

CASH IN ON THE

BIG SALES AND PROFITS

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WRITE FOR OUR DEALER PROPOSITION

FREEZALARM COMPANY

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## The Complete Amana Line

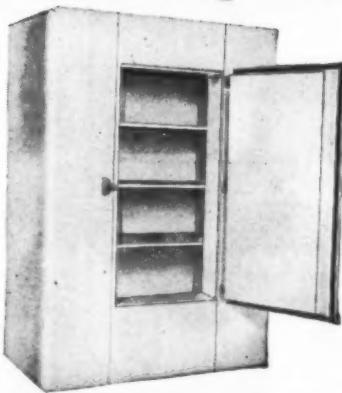


### MODEL 200

The famous triple function unit—cools—freezes—preserves. 123 cu. ft. food capacity. The best answer to better food preservation.

### MODEL 30 R

30 cu. ft. freezer. Compact, convenient, large capacity. Contact freezing plates.



### MODEL 110

10 cu. ft.—many outstanding features.

### MODEL 50

5 cu. ft. freezer for the average home.



With models ranging from 5 cu. ft. to 123 cu. ft. Amana meets the needs of every requirement. You are able to sell every prospect. This complete line is one more big advantage for every Amana dealer.

## INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

If we well-fed Americans seem to block the progress of world-wide Communism, these desperate groups will attempt to overpower us. They'll stop at nothing, if only they can eat, rob us, and gorge themselves upon divided riches temporarily. Their sense-of-righteousness and grasp-of-future has evaporated.

Communism is the new religion of this Hungry Age. And religious fanatics are, by hypothesis, unreasonable to the nth degree. They'll stop at nothing, because they have no morals. Also, because they're poor. Like all despots, they steal first from their own well-off folk. Then, when there are no stored-up home savings to pilfer, they set out to plunder adjoining peoples and nations. The system is insatiable, because it's based upon robbery rather than enterprise.

To put it bluntly, World Communism is dedicated to World Domination (and, of course, to the obliteration of the individual).

Is that what you want? Are you ready to give up your freedom of choice and freedom of action in return for an unreliable guarantee of a poverty-level sort of so-called security?

If you aren't, here's a challenge: Work harder than you ever have before in all your life to make the American Free-Choice System come

out on top in the eyes of the world. Devote a handsome portion of your time, your talents, and your manifest ingenuity to the development of arguments and case-histories which will support the rightness of that wonderful system.

And insist that your political leaders conserve our national assets, instead of squandering them.

We don't have to buy time from the Russians. We're so strong that we can call their bluff. In the past, Americans fought to avoid paying tribute to pirates. Have we lost our national courage?

### A Strong Defense Is the Best Offense

However, should worst come to worst (all of us are forced to fight against odds for the preservation of our rights and principles, as we see them) let's make sure that our powder is dry, that our weapons are superior, and that no Fifth Column is lurking in the shadows. If we must pit our productive capacity and our engineering perspicacity against foreign invaders, let's be ahead of the game, this time.

We want to fight fair. That's for sure. But let's be certain that we can fight well, and gallantly, and without handicaps. Let's prepare to make our nation impregnable, and let's publicize our preparations so as to discourage potential warmongers.

America is the last hope of the worshippers of freedom. We are being attacked from within, and if we don't erase these internal gnawers, we'll be attacked from without. That would mean World War III.

We can prevent that war if we clean out the enemies within our midst, if we maintain and enlarge our industrial capacity, and if, for the first time in our history, we bet the strength of our hand in the international poker game of diplomacy.

### Should We Tell More People?

Typical of the many letters we have received during the last six weeks is this one:

New England Sales Corp.  
249 Washington St.  
Providence, R. I.

Editor:

I have been very much interested in reading your editorial column, namely "Inside Dope" by George F. Taubeneck and I am wondering if you contemplate, by any chance, putting out a series that he is writing on the state of the nation as regards foreign affairs in a small book form. If so, I would be very glad to get one.

I think it would be well worth putting into a small pamphlet and making it available as a complete story.

DANIEL J. KIELY

Reply: Subscriber, the decision is yours. More than a month before President Truman's historic "stop Russia" message was delivered, "Inside Dope" placed the cards on the table, face-up. This act shocked most of our subscribers, apparently. But it wasn't long before our advance revelations as to Russia's menace were given official sanction.

What's your reaction? Should we try to awaken more North Americans to danger which confronts us so ominously, or should we let sleeping dogs lie?

### Does the Shoe Fit?

At the moment we go to press, seven subscribers have sent us clippings of the following newspaper article. We quote it without comment.

#### THE DECLINE OF MORAL COURAGE

We Could Use More of the Bold and Forthright Manner of Nineteenth Century Publicists in Debating Issues

By William Henry Chamberlin

"I hope I shall never be deterred from detecting what I think a cheat by the menaces of a ruffian."

"Here is the great Dr. Samuel Johnson speaking, or, rather, writing

to a man named MacPherson whom he had caught in a temporarily successful literary fraud. MacPherson had addressed a threatening, abusive letter to Johnson, demanding that he cease questioning the authenticity of the 'Ossian' poems.

"The manly independent spirit of Johnson's reply is well worth remembering today. Had such a spirit prevailed in every country which has been or is cursed by dictatorship, the history of the twentieth century would have been very different and far happier. The organized gangs of 'ruffians' who have imposed colossal 'cheats' on the peoples who have fallen under their power would never have been able to succeed if they had been obliged to reckon with a host of Samuel Johnsons.

"Johnson possessed in high degree the quality of moral courage. A Gestapo, a NKVD could have liquidated him, and probably would. But no human power could have made him say something he did not believe or refrain from saying what he did believe. More than that. It would have been difficult, and probably impossible, to make him lower his literary voice or speak his mind in accents less emphatic than he regarded as suited to the occasion.

### We Could Use the Johnson Spirit

"We could do with some of the Johnson spirit in America at the present time. Moral courage, which is the invariable first casualty of a totalitarian regime, is in a state of serious decline in this country, where the fearful pressures of arrest, torture, and concentration camp are non-existent.

"Far milder pressures—fear of being retarded in a career, or of being unjustly stigmatized with some unpopular epithet, or of losing favor with some social group, can often extract a hypocritical statement or enforce a cowardly silence. I am afraid many Americans have gone morally and intellectually soft since the time when Elijah Lovejoy died defending his right to speak out against slavery, when William Lloyd Garrison set mobs at defiance with his slogan: 'I am in earnest; I will not equivocate; I will not excuse; I will not retreat a single inch.'"

"There is an all too prevalent conviction that truth is a matter of timing, that it is a delicate plant

which must be swathed in cotton-wool and put aside during periods when majority opinion will be offended. Objectivity is confused with the absence of any strongly held convictions. The very desirable intellectual quality of being able and willing to listen to all arguments, to understand all viewpoints is sometimes pushed to the undesirable extreme of assuming that no choices are to be made after the evidence is all in, that there must be a cautious, even-handed meeting out of praise and blame as between societies dedicated to human freedom and societies which have reintroduced human slavery.

"Where were our economists, where were our book reviewers when the preposterous economic folly of the Morgenthau Plan was put between the covers of a book and offered for the consideration of the American public? It was only in rare cases that the criticisms which would have leaped to the mind of anyone familiar with German and European economic realities were openly pronounced.


"Where were our leaders of thought, our ethical guides, when the flagrant contradictions between the Atlantic Charter and the actual terms of the peace settlement developed? Again painfully few voices were lifted in honorable protest.

"The international horizon would be less clouded and American intellectual life would be fresher and healthier if there were more individuals with Samuel Johnson's cross-grained insistence on speaking the truth, as he saw it, in season and out of season, with no regard for 'timing' and with a use of nouns and adjectives appropriate to unpleasant situations."



**JORDON REFRIGERATORS**

VOL. 1 - NO. 1 - MARCH 1947 - Philadelphia 7, Pa.



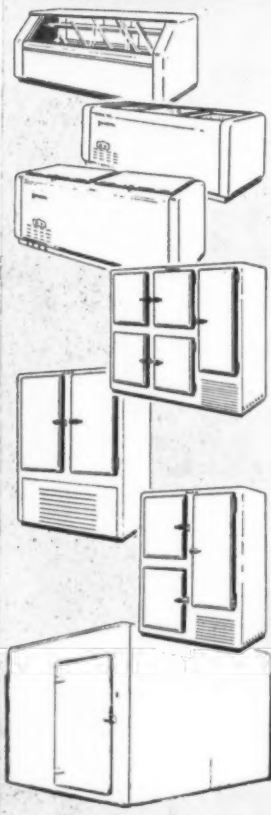
SECTION OF MAIN EXHIBIT HALL AT JORDON 1947 DEALER CONVENTION

**DEALERS AND DISTRIBUTORS FROM ENTIRE NATION ATTEND JORDON 1947 NATIONAL SALES CONVENTION**

*Prosperity Forecast*

**Mr. Dealer—**

**IF YOU MISSED THE YEAR'S BIGGEST REFRIGERATION SHOW, WE'LL SEND THE SHOW TO YOU!**



- The luckiest dealers in the refrigerator business today are JORDON Dealers—

- They have a complete line. They have a quality line. They are being backed by active and wide-spread promotion. THEY ARE ABLE TO MAKE DELIVERY.

#### JORDON PRODUCTION IS EXPANDING—AND PROVIDES FOR MORE DEALERSHIPS

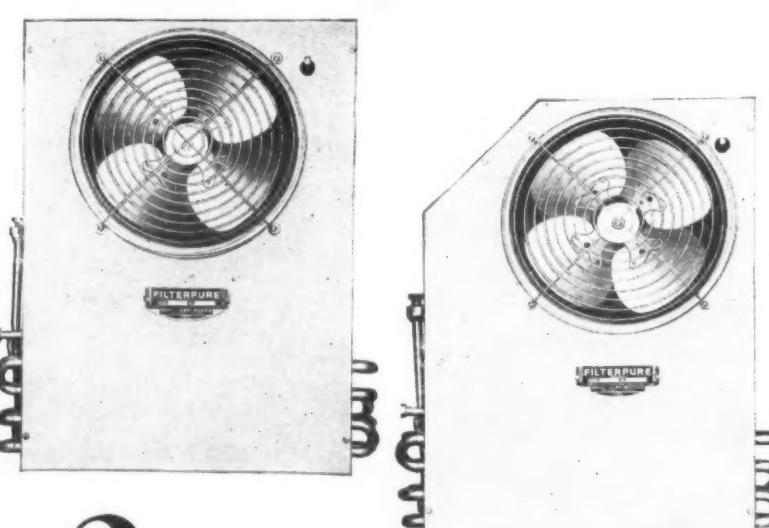
Why play guessing games? If you want to know how JORDON fits into YOUR FUTURE and YOUR FORTUNES—ask questions! JORDON is paying off handsomely to hundreds of America's top-notch dealers right now!

PHONE—WRITE—WIRE—and do it now!

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Sales Division  
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**Dial Your Own Weather with TYPHOON AIR CONDITIONING**



**PROP-R-TEMP SELF-CONTAINED UNITS**  
3-Ton, 5-Ton, 7-Ton  
**PAY OFF WHEN THE GOING IS TOUGH**

These rugged, oversized units are built to give service under the most trying conditions. When the water supply is less than normal, the oversized condenser will still keep head pressures within bounds and the machine will keep plugging along, turning in a beautiful job of air conditioning.

The big cooling coil and every other oversized part gives assurance that this TYPHOON unit, year after year, will deliver 12,000 BTU's of actual air conditioning performance for every ton of rating.

This means a maximum of satisfaction for your customers and the very minimum of service headaches for you.

Write for further information and inquire if your dealer territory is still open.

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**TYPHOON AIR CONDITIONING CO., INC.**  
Division of Ice Air Conditioning Co., Inc.  
794 Union Street Brooklyn 15, N.Y.

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# Hospital Staff Doctor Describes Equipment Needed For 'Refrigeration In Medicine'

LOS ANGELES—"The problem of the refrigeration industry in supplying equipment that is needed by the medical profession is to provide a refrigerating unit supplying a readily controllable degree of coldness that can be applied uniformly to any surface and any size of surface, and at a cost that does not make its availability restricted."

That was the message given to refrigeration engineers by Dr. John Dillon, Chief Anesthetist of Los Angeles General Hospital, when he addressed the Los Angeles section of the American Society of Refrigerating Engineers on the subject "Refrigeration in Medicine."

Declared Dr. Dillon in his address: "The use of refrigeration in medicine can be divided into many subdivisions; important are:

## Types of Applications

- "1. Preservation of biologicals including blood and blood derivatives.
  - "2. Separation of biological specimens by difference in freezing points. Virus studies.
  - "3. Ventilation of atmospheres of gases, namely oxygen in tents, rooms, etc.
  - "4. Anesthesia for surgical purposes.
  - "5. Chryomotherapy (treatment by refrigeration).
  - "6. Experimental uses.
- "I will not consider the first two divisions. They involve technical considerations well known to you.
- "It may be wise to stress the third division momentarily only from the point of view of emphasizing the importance of cooling of gases for therapeutic atmospheres.

## Portable Air Cooler Needed

"Advantages of a cool atmosphere are (1) subjective comfort for the patient due to low humidity, and (2) dilation of the air passages brought about by the cooled atmosphere. From the standpoint of the refrigeration engineer, it would be highly desirable to have a really small portable mechanical unit for cooling purposes rather than the use of CO<sub>2</sub> ice, artificial water ice of some large mechanical cooler.

"The importance of a properly air conditioned operating room cannot be stressed too much. These rooms are usually small, always crowded, and always uncomfortable unless conditioned. Both surgeon and patient, as well as the anesthetist, assistants, and nurses suffer.

## Main Uses Medically

"Chryomotherapy proper can be subdivided into several categories:

- "1. Use of refrigerants locally for sclerosing or removal of skin blemishes.
  - "2. Use of cooling of tissues to reduce swelling, and localize infections.
  - "3. Cooling of entire body to attempt stopping growth of malignant disease and relief of intractable pain.
- "In certain types of skin diseases the use of carbon dioxide snow is useful in destroying the lesions by applying the snow locally—this causes scarring of the blood vessels and destruction of the lesion. It may also be used in some cases to cause desquamation of the skin over large areas. It is a technique requiring particular care to avoid serious and permanent disfigurement."
- "Cold applied locally to reduce swelling and localize infection is quite old. It is, as you all know, a household remedy. It is a good treatment for bruises, etc. when used rationally. Wetting of the skin should be avoided, and the cooling should not be too intense—ice bags or packs are the means employed. In certain types of surgery about the neck, ice collars are used to keep

down swelling and produce a diminution of pain.

"Cooling of injured limbs for transportation of a patient from the place where injury occurred to the place of surgery, or during the waiting period that may be necessary prior to surgery, has been found to give relief from pain, assist in the control of shock, and keep down infection. This type of refrigeration technique was found useful during the war and enabled saving many limbs that otherwise might have been lost. This refrigeration technique was accomplished by shaved or cracked ice held about the limb by rubber sheeting.

"The logical development of the above is the use of refrigeration for anesthesia during surgery. Actually, however, the uses occurred in reverse order.

## Technique In Anesthesia

"Refrigeration anesthesia can be used for the surgery, particularly amputations, of the limbs. Ordinarily this type of anesthesia is reserved for elderly debilitated patients, since the time of anesthesia is limited and it cannot be used for procedures whose duration is not readily predictable.

"Refrigeration anesthesia is accomplished in the following way. The site of amputation is selected, several inches above this, the leg or arm is surrounded with ice bags. When the skin is thoroughly chilled a tourniquet is placed about the limb so as to cut off the entire blood supply.

"A rubber sheet is then arranged to surround the limb from a site several inches above the tourniquet to include the entire limb below. Shaved ice is then placed entirely about the limb to form a layer of several inches; drainage is provided to carry off the water.

"The sheet is folded over the top and the entire limb enclosed in several layers of blankets as insulation. Ice is replaced if necessary, although

this is usually not necessary. In about three hours, complete surgical anesthesia results, which will last from 30 to 45 minutes after the ice is removed.

"The patient may require some sedation at the outset of this procedure, but shortly after inception, the patient usually feels a great deal better generally.

"Patients with severe infections of a limb may be kept refrigerated for several days or more with marked improvement in their general condition.

## Post-Operative Cooling

"If amputation is done, it is very important that the stump be warmed slowly. As much as 36 hours should elapse before all cooling is relieved for the stump.

"Many lives have been saved by using refrigeration anesthesia, either for the surgery or to carry a patient through a severe infection.

"There are mechanical refrigerating units suitable for producing cooling, but these are, as yet, not widely used.

"The most spectacular use of refrigeration in medicine is for the treatment of advanced malignancies and for the intractable pain associated with such conditions. This is the production of a state of hibernation or suspended animation over a period of days. This technique was

developed by Dr. Temple Fay of Temple University. It developed from observations that refrigeration of malignant cells caused modification of their structure and death, while normal cells survived.

## Uses In Special Therapy

"To subject a patient to complete refrigeration was indeed a heroic measure but the patients chosen were terminal and this offered at least some hope. The patients were heavily sedated and literally incased in shaved ice. The body temperature fell to levels ranging from 92° F. to 85° F. The pulse slowed, became feeble and imperceptible, unconsciousness persisted after the effects of the initial sedation wore off, respiration became almost too shallow to be noticed.

"These patients were kept in this condition for many days, then gradually warmed to usual temperature. In many instances, the pain that had been present was alleviated and the progress of the disease apparently arrested for a time, although to date, no permanent cures have resulted.

"Localized tumor masses have been treated by local application of refrigeration with evidence of retardation of the disease.

"Mechanical refrigeration units have been developed for the above type of therapy.

"There are inherent hazards in any type of therapy and of course in one which so modifies a patient's existence there are many, the principal one being the hazard of pneumonia.

"It is doubtful if such therapy is ever used extensively, but that it is possible is indeed a step toward the alleviation of a terrible condition.

"The use of refrigeration for ex-

perimental studies in medicine has shown some interesting things.

"The reason why tissues are damaged by freezing is that disruption of the cells making up the tissues occurs with the formation of ice crystals of the fluid within and about the cells.

"It was shown long ago that if unicellular organisms were chilled rapidly they would survive upon being warmed to normal temperature. This has been used to preserve certain organisms such as bacteria for years—in one case I know of for 25 years.

"In the past few years, it has been shown that even muscle fibers, really large complicated cells, would survive if chilled rapidly enough and cold enough to pass through the point at which crystals are formed so rapidly as to avoid their formation. Liquid air was used for these studies.

"What direction the use of refrigeration in medicine will take in the future is hard to say.

## Types of Equipment to Date

"To date, ice seems to be the most widely used and generally satisfactory refrigerant. The reasons for this are the cheapness of ice and its ability to produce a uniform coldness of known intensity.

"CO<sub>2</sub> snow has certain particular uses but it always destroys tissue.

"Certain chemicals such as ethyl chloride are entirely unsatisfactory.

"The problem, then, is to provide a refrigerating unit supplying a readily controllable degree of coldness that can be applied uniformly to any surface and any size of surface; and at a cost that does not make its availability restricted."

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And Going Places!**



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**COOLER**  
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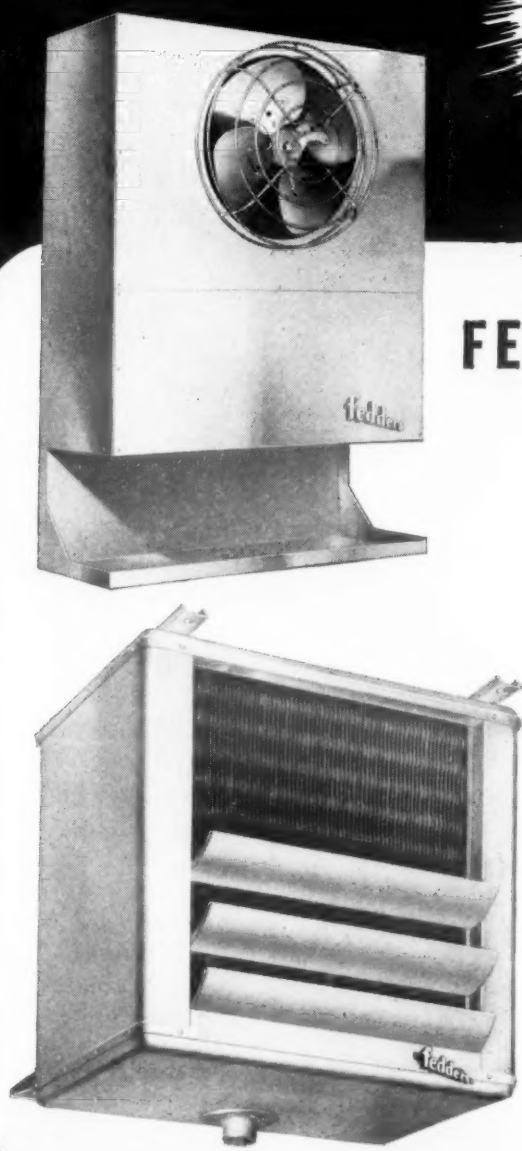
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CORPORATION  
BUFFALO 7, NEW YORK

## 'Main Street' Locker Plant with Adjacent Slaughter House Emphasizes Cleanliness

### Urban Wisconsin Plant Handles Complete Processing

WAUKESHA, Wis.—It is not at all unusual to find a locker plant in the center of a town. But it is an exception to find one on the main street containing a slaughter house.

Such a plant has just been set up here. Called the Riverside Locker Service, it was built for W. C. Moldenhauer and W. J. Flanagan with the approval of state and city authorities.

This 500-locker plant not only contains a slaughter house, with holding pens adjacent, but also a meat market. All of which means that cattle come in the back door on the hoof and go out the front door a frozen retail product.

Riverside Service was designed by R. E. Oberst, Milwaukee architect, while The Stevens Co., also of Milwaukee, furnished and installed the refrigeration equipment. Located in the same offices at 2659 N. 27th St., the two firms have collaborated on several locker plants in adjoining communities.

Mr. Oberst considers the Waukesha building "unique" among the plants he has designed. Here are some other features worth noting:

—Three hundred and seventy-five feet of track suspended from the ceiling and a scale for weighing are provided for ease in handling the carcasses from the slaughter room to the chill room.

—Westinghouse Sterilamps, which

eliminate bacterial mold and are effective in the curing of meats, are suspended from the ceilings of the chill, age, and cure rooms.

—The holding pens with floor drains for cleanliness, are 25 ft. from the main building to overcome some of the objectionable features of direct attachment. A ramp is provided for the passage of the animals between buildings.

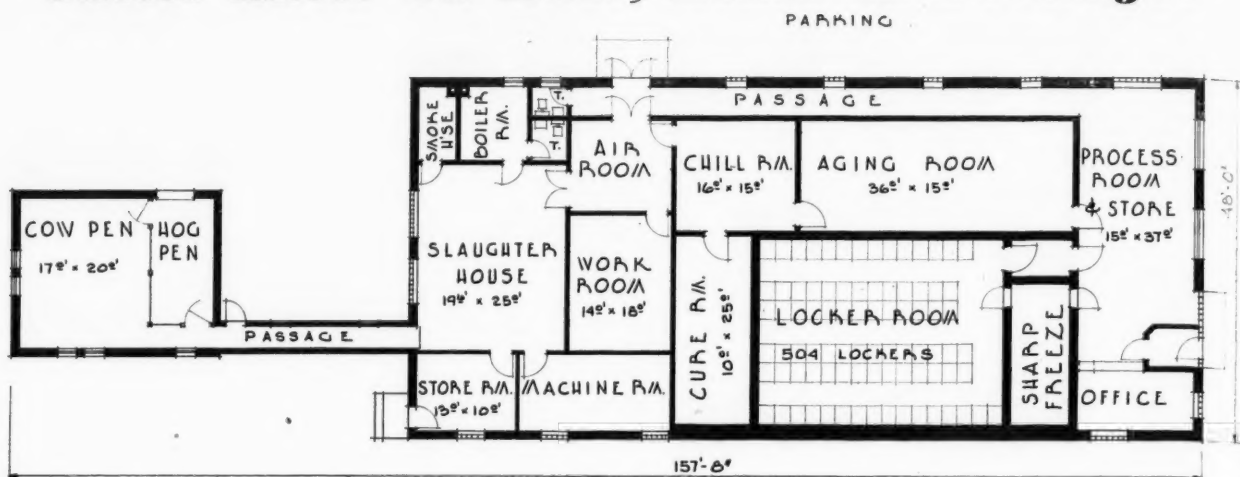
Refrigerating machinery includes three 5-ton Baker "Freon" compressors and a 3-hp. unit. All are operated in conjunction with an evaporative condenser for economy in operating costs.

One of the 5-ton compressors is used for the sharp freeze room, another for the locker room; they operate independently. The third 5-ton machine handles the age and chill room, while the cure room is supplied by the 3-hp. unit.

Cooling units were installed in the chill and age rooms and Dole vacuum cold plates in the locker, sharp freeze, and cure rooms to maintain proper temperatures. Temperatures in the chill, age, and cure rooms were to be 38°, in the locker room 0°, and in the sharp freeze room -10°.

"Straightforward, functional, and economical" is the way Mr. Oberst describes the plant. The visual exterior and interior architecture, he says, "has been designed as a machine for selling."

## Cattle Enter on Hoof, Leave In Packages



The principal facade, facing the main street, is of tile to facilitate cleaning and thereby "reflect the efficiency and cleanliness of the interior." Approval of the plant by government officials was said to be due in a large part to the "self-cleanliness" indicated by the architect's design.

Balance of the structure is of concrete block. Interior walls are furnished with ceramic tile or lath and plaster.

Floors throughout are of magnesite or concrete, with ample drains to permit thorough flushing. The slaughter house floor pitches to the center and has a full-length drain 10 in. wide.

Since he considers insulation one of the most important features of successful operation, Mr. Oberst gave this matter careful consideration. Floors under low temperature rooms

are insulated with foamglas or block cork in varying thicknesses, and sidewalls and ceilings are also amply protected. Special thought was given to the provision of vapor barriers, installed wherever low temperature walls adjoin a normal temperature area.

In the front section of the plant is the store and the up-to-date processing room, equipped with modern display cases and meat market equipment. From this area, the customer has immediate access to the locker room, in conjunction with which is the room designed for sharp freezing.

A lobby or passage leads to the slaughter house, machinery room, smoke house, and wash rooms in the rear section. The entire area devoted to slaughtering is walled in ceramic tile, as are the walls of the work room. The latter room adjoins the room where carcasses are hung preparatory to entering the chill room.

A large parking space has been provided for customer convenience and a paved circular drive for direct truck access to the holding pens.

This type of building has a "great future," Mr. Oberst believes.

"With the tendency towards decentralization of cities, there is a need for community locker plants which house a locker plant, slaughter house, and retail market," he feels.

## Broader Nebraska Law Taxes More Items Listed In Cold Storage Equipment

LINCOLN, Neb.—Nebraska cold storage and freezer locker plant operators will have to be more painstaking in filling out their personal property assessment schedules this spring as a result of a new, more detailed schedule which will be put in use for business firms in the April assessment, according to State Tax Commissioner Robert M. Armstrong.

Thirty-three new categories have been added to the business schedule and new listings for such firms as cold storage plants, locker plants, dairies, creameries, etc.

"Get tough" orders go with the new schedule blanks, Mr. Armstrong stated. Under the new orders, filling out the schedule will be up to the taxpayer, not the precinct assessor, while the taxpayer will be required to sign his personal property schedule under a strict oath—a requirement often winked at in the past. As a follow-up, the tax commissioner plans to make "spot checks" throughout the state to see if the "tougher" rules are being followed. Object of the new schedules is to list for taxation various equipment and items which heretofore have escaped.

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### Master Food Conservator

the Modern way to Conserve food

Master Manufacturing Corp.  
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800,000 Master Food Conservators In Use

### Frozen Food Storage Plant, Locker Plant Get Approval

WASHINGTON, D. C.—An \$11,000 frozen food storage plant at Lindenwood, N. J., and an \$11,000 frozen food locker plant at Goodland, Ind. were among 81 non-housing construction projects approved by the Civilian Production Administration recently.

Applicant given for the New Jersey plant was H. E. Watkins. Those listed for the Indiana project were E. J. Pence and G. LaPlante.

### SALES EXECUTIVE WANTED

Assistant to the General Sales Manager

An old well established progressive middle western manufacturing company requires the services of a young man to act as assistant to the general sales manager and supervise the sales thru distributors of refrigeration replacement parts. Engineering college graduate preferred. Age 33 to 40. Must have actual field sales experience in handling refrigeration jobs—pleasing personality—administrative experience in handling salesmen and have a technical knowledge of refrigeration and air conditioning. Please answer fully giving details of training, experience, references, etc.

Box No. 2274 Air Conditioning & Refrigeration News

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REFRIGERANT FLOW TANKS

MERCURY PRESSURE COLUMNS

TESTING—KEEP OUT

"BLU-COLD Ratings are Absolutely Safe Refrigeration Equations" says the Lehigh Team.

An argument can have two sides. A point of view can be relative. A description can be comparative. But a rating table must be dead right. It must be reliable—and it must have every factor and constant proven and provable. The measure of confidence that BLU-COLD units now enjoy from seller and user comes, in a large degree, from the accuracy and reliability of BLU-COLD ratings.

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Now Available in 1/4 to 1 H.P. Full Line to include up to 5 H.P.

Lehigh BLU-COLD COMMERCIAL REFRIGERATION

Lehigh Manufacturing Co. PLANT: LANCASTER, PA.

## Higher Output, Lower Cost Are Result Of New Frozen Food Packing Methods

BRIDGETON, N. J.—At least 80% of the labor cost involved in packaging quick frozen produce has been eliminated in a new line recently installed by Seabrook Farms, gigantic frozen foods growing, processing, and packaging corporation located here.

C. F. Seabrook, head of the organization, feels that adoption of fibre-board can packaging on a 100% automatic basis, will bring Deerfield Packing Corp., the company's packing plant operation, up to a par with the efficient growing, shipping, and freezing methods already incorporated in the firm's structure.

The new line, which will package lima beans, broccoli, peas, Ford Hooks, spinach and other vegetable produce, is almost entirely automatic, and occupies far less space than existing carton-packaging lines.

### Line Has Seven Stations

Installed and perfected during summer of 1946, the unit consists of seven stations, in a U-shaped progression entirely unlike the straight-line processing in existing lines. Those which formerly feed the banks of multiple sharp-freezers at the rear of the Deerfield plant require 22 employees and from seven to 10 hand operations.

The new line, with a vastly higher production rate, needs only five employees and the only hand operations are the placing of packages for freezing on metal tray racks, and hand-filling of the hopper which deposits contents of the can into the container. In the case of lima beans, peas, etc., these are brought to the hopper on the packaging line by means of stainless steel buckets suspended along the moving overhead conveyor belt—while a man on a platform above the hopper empties the pails directly into the hopper. Eventually, this will be replaced by a time measured quantity filler which will eliminate the need for this step.

### New Can Is Oblong

The new line, the result of much painstaking experiment by Seabrook Farms and American Can Co., suppliers, is an oblong, paraffin-covered fibre-board can, quite similar to those in which pork shoulder luncheon meats are packaged—with the exception that the walls of the can are of fibre-board material. Both top and bottom are lightweight metal blackplate, with an aluminized finish to prevent discoloration, affecting taste, etc.

The new containers, according to Seabrook's engineering department,

are moisture-proof, strong enough from a tensile standpoint to withstand rough handling in shipment, long-continued display, etc. They can be produced at the rate of one a second, more than a third again as fast as the former lines, with many slowing-up hand operations involved.

The cans are shipped into the Deerfield packing plant in shipping cases, 350 to a carton, and are fed to the head of the packaging line by a gravity unit. Each can is spaced on to the line by a cogged-toothed wheel, permitting a full can's width between each actual package. Compressed air blows the interior clean, and the can is whirled over upside-down just before filling to empty out any lint, dust, or debris.

### Every Sixth Can Inspected

The rotating, three-head hopper, deposits 12 ounces of lima beans, peas, etc., in the can, which then leaves the conveyor line to a rotating turn-table, where every sixth can is inspected, weighed, and checked for quality. Returning to the conveyor line, the package goes through the lid-applying machine which lifts the package up gently, crimps the lid tightly, and passes it on to a girl who fills the trays.

These, stacked in towering levels, accommodate 36 packages each, and are mounted on wheels to be rolled into quick-freezing units toward the rear of the building. The paper cans, checked, weighed, inspected, etc., are wheeled immediately to the freezers, where it requires from 40 to 55 minutes, depending upon the nature of the produce, to freeze them thoroughly.

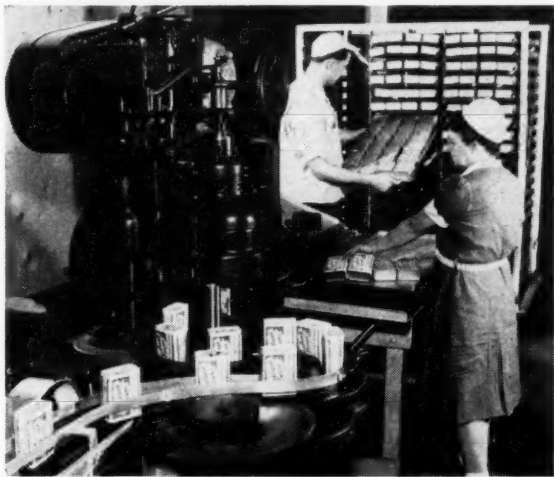
### Rolled to Freezing Room

Emerging at the rear of the freezers, still on the trays, they are transferred to a case-sealing line, packed 48 to a carton, and after a final check are transferred to gigantic sub-zero freezing and holding room at the rear.

Before adopting the line, the Seabrook concern made a survey among frozen foods users to determine public reaction to the can, and found it favorable for the most part. Therefore, during the test period, although Seabrook Farms turns out many private-label brands, including Birdseye, the can-packaged frozen foods are all going out under the "Seabrook Farms" familiar label.

Chief advantages accruing, according to C. F. Seabrook, are faster production, virtual elimination of

## Seabrook Farm's Packing Line



Shown at the left is a portion of the packing line which has recently been installed at the Seabrook Farms. The packages are of fibre-board with metal ends.

high labor costs per package, which will be important in competitive selling periods ahead, the fact that the freezers may accommodate more containers due to the relatively small size of the package, and easier handling. Above that, the packaging line occupies far less space, and requires less skilled operation than the lines involving handwork.

Actual freezing time is approximately one-fourth less in the new package, according to Seabrook engineers. Added to more packages per unit, this amounts to a very substantial increase.

Retailers report an excellent response to the introduction of the can to the market, and likewise are themselves in favor of the smaller size, which means that more packages may be accommodated in display refrigerators.

### Turkey Steaks, Burgers Frozen by Texas Locker Plant

ATHENS, Tex.—Turkey steaks at \$2.50 a pound are being packaged at the W. R. VanderMeer Frozen Food Locker Plant here for Hartwell Jalonick of Wagon Wheel Farms, Canton.

Breast fillet, shoulder fillet, boneless roasts, giblets, drumsticks, wings, and oyster fillet, which are done up in transparent bags, comprise the production.

Mr. Jalonick is even making "turkeyburgers" from the fine bone trimmings.

## Kosher Frozen Foods Sold In New York City

NEW YORK CITY—Under the brand name Sanborn's-Kosher-Pakt, frozen foods, approved by the Union of Orthodox Jewish Congregations of America, are being sold by more than 300 stores here.

Two of the foods, gefulte fish and potato pancakes, are prepared in accordance with the Hebraic dietary laws in effect for the Passover. Two other products manufactured by the Sanborn Co., headed by Samuel Borenstein, are stuffed cabbage and a pot roast dinner.

Chefs with a European background are used to prepare the dishes, which sell for the following prices: gefulte fish, 75 to 79 cents for 12 ounces; potato pancakes, 32 to 39 cents per pound; stuffed cabbage 70 to 75 cents per pound; and the pot roast 85 to 89 cents per pound.

### Du Pont Co. Promotes L. G. Seebach, R. C. Weigel

WILMINGTON, Del.—The Du Pont Co. has announced the appointments of L. G. Seebach as manager of the newly formed transfers section of the ammonia department and Russell C. Weigel as sales manager of the standard products section.

Mr. Seebach, who has been with the Du Pont Co. since 1936, is a graduate engineer of Carnegie Institute of Technology. Mr. Weigel has been with the company since 1934. He attended New York University and Columbia.

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Open ... for greater Display!  
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Accessible frozen foods sell themselves from these Engineered Cabinets by Paley



\*OPEN FOR BUSINESS... no groping, because selection is convenient—always at the sales level for more sales, greater profits. Special Kold-Hold evaporator and 6-inch insulation reduce operating costs by permitting use of a smaller condensing unit—yet maximum refrigeration efficiency is maintained throughout the cabinet.

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\*SALES ON BOTH SIDES... Paley's new aisle type open top cabinet serves twice as many customers at once. Utilize dead floor space, capitalize on aisle traffic to double frozen foods sales from every cabinet. Solid construction within, shining clean beauty without.



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## WANTED! REFRIGERATION ENGINEERS

Here is an opportunity for several experienced capable household refrigeration design and production engineers to become associated with one of the leading home freezer manufacturers. Permanent, responsible positions and salary commensurate with ability.

Also, a similar opportunity for several engineers experienced in refrigeration cabinet design and production.

Write for further information today—all correspondence held in strict confidence.

REFRIGERATION DIVISION

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## THE NEW 1/2 HORSE DOVER EQUIPPED CONDENSING UNIT, COMPLETE WITH MOTOR, IMMEDIATE DELIVERY.

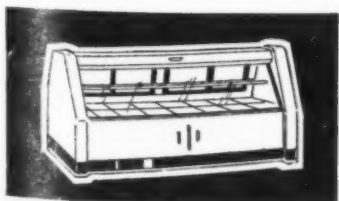
Ideal for air-conditioning, freezers, show cases, etc.

### WILSON FREEZERS, INC.

937 Tilden St.

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JOIN OUR HUNDREDS OF SUCCESSFUL DISTRIBUTORS SELL OUR COMPLETE TOP-QUALITY LINE

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## The Chickens Come Home To Roost

THE honeymoon is over for the home freezer business. From all around the country the News is receiving reports of dissatisfied dealers, dissatisfied customers, and frightened small-time manufacturers. It seems that people are getting choosy. They are no longer eager to buy a no-name cabinet at a high price and wait for delivery of the condensing unit later.

This was to be expected—and, in fact, has been predicted. Nearly every veteran of the refrigeration business has been waiting around for the washout and the suicide of those fly-by-nights who had no honest right to horn in on an essentially sound development.

Few home appliances have been so ballyhooed, and so widely acclaimed in advance of their appearance, as has been the home freezer. Theoretically, the coming revolution in perishable food distribution, which quick-freezing fosters, is inevitable. It is an economic imperative. Actually, however, that revolution will be slow in coming. It must take its time. . . .

You can't build a good low-temperature cabinet if you or your engineering staff—lacking a long, expansive background in the refrigeration business—are in a hurry to turn out a piece-meal product that may not do the job it has advertised. All you'll do, if you are one of those impatient fabricators, is succeed in muddying the waters for integrity-conscious manufacturers of a truly worthy product.

And that's just what has happened.

Sadly inadequate home freezers have been purchased by trusting, eager buyers. This unadvertised stuff is disappointing, because it hasn't been properly designed, carefully manufactured, or educationally sold. So, the purchaser proclaims to all his friends that he has bought a "gold brick." And that definitely slows up future sales acceptance for this highly useful home appliance.

Dealers have their gripes, too.

Bona fide commercial dealers think that the freezer distribution setup is getting out of hand. Nearly everyone and his brother is handling home freezers—all the way from hatcheries to garages, and from Kaiser-Frazer showrooms to basement radio repair shops.

Established refrigeration dealers are getting a bit sore about this situation, for several reasons. First of all, it thins out the market. They are already feeling the pinch of customer resistance, and some of them believe that the top cream has already been skimmed off. People just aren't rushing in to buy any old kind of freezer—sight unseen—as they used to do.

Furthermore, the no-name dealers are selling, for the most part, locally-built freezers. To be charitable, let us say that some of these local jobs aren't all of first quality. Established dealers are afraid that too many of these shoddy units will reach consumers and, in a few months, may taint the freezer market and spoil it for everybody.

There's the service angle, too. Regular dealers are called upon to service the units sold by the no-name dealers—who, of course, have never thought about service obligations. Often these "off-brand" units are improperly installed, and are not doing a good job. That doesn't make the consumer any too happy over his freezer, either.

Summed up, dealers aren't making any wild claims for the home freezer today. They have to get out and sell them now. Also, they think that ALL manufacturers—the little fellows as well as the big—should develop stricter control over their distribution, and not let every Tom, Dick, and Harry get a dealership, sell a few freezers, then forget about them.

In the home freezer field, shoddy business methods—"quickie" manufacturing and "quickie" distribution—are now returning to haunt the opportunistic producers and merchandisers. And about time, too. Had the to-heck-with-the-future boys been given more encouragement and longer life, the home freezer business might have been ruined for the next decade.

## Out With Special Privileges - - Revise the Wagner Act!

COLD - DRY - SANITARY - CONVENIENT



TREMENDOUS MARKET FOR TYLER DRY BEVERAGE COOLERS

Wherever bottled beverages of any kind are sold there's a need for one or more Tyler Dry Beverage Coolers. Taverns, restaurants, hotels, bars and night clubs like the sales-boosting, customer-pleasing features of this modern equipment.

Eliminates the undesirable features of ordinary wet cooling—the unsanitary pool of water, the mutilation of labels, the muss the ice-man makes, the hide-and-seek method of locating brands, and the serving of slimy, wet bottles to customers who are learning to expect something better.

The sanitary, efficient, attractive new Tyler Dry Beverage Cooler—with its clean, dry, cold storage; finger-tip-lift lid doors; its adjustable wire dividers; welded-steel construction; simple streamlined design and other modern features—builds up bottled beverage sales and customer good will for the owner. Bar top or Underbar models—several sizes.

TYLER FIXTURE CORP., Niles, Michigan

IT'S  
**TYLER**  
FOR FOOD REFRIGERATION



TWO  
GREAT  
LINES

## New Store Sign Helps Attract Trade



Pictured at left is the new 20-ft. roof sign which Samuel Eichner of King Home Appliances recently had erected outside his neighborhood Detroit store. It's all part of an advertising program that will ultimately employ street-car placards and radio spot announcements.

## Neighborhood Dealer Finds Advertising Key to Competition on City-Wide Basis

(Concluded from Page 1)

ring the half-million-dollar bell this year. He is now in the midst of a test to determine the most effective media.

The experiment began last summer with the insertion of classified advertising in daily newspapers. Since that time, about \$30 a day has been spent on these advertisements. They are still being used and are run under "Appliances," "Refrigerators," and "Stoves."

Then, earlier this year, display advertising was tried in two dailies. Quarterpage advertisements were published once a week for five weeks. One of these advertisements alone resulted in an estimated \$10,000 worth of business, Mr. Eichner said.

### Public Transit Is Next

Next on the list for testing are street cars and buses. Under recently-signed, three-month contracts, 75 Woodward and Grand River street cars and 50 Grand River buses will carry outside advertising featuring immediate delivery on electric ranges. (Woodward and Grand River are two of Detroit's main arteries, stretching from the City Hall to or beyond the city limits. King Home Appliances is located on the latter street.)

In April the store will start sponsoring spot announcements on local radio stations. Arrangements for this are not yet completed.

When all of these media have been used, Mr. Eichner will have a pretty good idea of their comparative effectiveness. He's already certain of the value of one medium, community newspapers. After spending several hundred dollars on this type of promotion, he came to this conclusion: "They are very good to wrap up garbage in."

Advertising allotments, it was pointed out, are based on 5% of gross sales. With sales running at a monthly average of about \$35,000, this means roughly \$1,750.

### Overboard In February

The firm went a bit overboard in February, investing a total of \$2,500 in non-participation advertising. This included quarter-page advertisements in foreign-language newspapers in addition to the daily newspaper display and classified promotions.

Personal notes to customers are still another form of promotion being used. But, Mr. Eichner explained, these letters contain "nothing suggestive of buying."

This approach is in keeping with the store's "low-pressure" policy. Under this policy, he said, salesmen make no attempt to sell patrons something they don't want and cash refunds will be made on anything returned within 90 days because of dissatisfaction.

"This is strictly a non-hustle joint,"

is the way Mr. Eichner puts it.

Such treatment, he thinks, will result in satisfied customers. Build up a following of satisfied customers and you'll have no worries about overhead, he's found.

And, Mr. Eichner believes, the time has come when customers have got to be satisfied. With very few exceptions, he says, "there isn't any honeymoon any longer."

### December Ended 'Honeymoon'

Discounting these exceptions, the honeymoon ended at King Appliances last December. It was then that most of the back orders were filled, the rationing system necessarily abandoned, and sales put on a first-come, first-served basis. Now Mr. Eichner is looking for a "terrific" buyer's market this summer, provided production is maintained.

Like many another Detroit appliance dealer, King's has been advertising immediate delivery on most appliances since the first of the year. At the moment, waiting lists are on file for washers, some models of two refrigerators, and some models of ranges.

The store is seven months behind on washer orders. It is believed this appliance will stay in a seller's market through this year.

As far as Mr. Eichner is concerned, there is one appliance already way into a buyer's market: home freezers. He sides with those who hold that the market for freezers has been highly overestimated.

### Only 2 Brands of Freezer

In view of the poor reception accorded freezers by his customers, Mr. Eichner plans to stock only a limited inventory. This will consist of but two brands, one an upright type and one a chest type. A well-known make presently being handled will be dropped as "obsolete."

Some of the seven standard-brand refrigerators carried are going to be dropped, too, but for another reason. Mr. Eichner is considerably irritated by certain furniture stores which he claims are selling refrigerators only with the purchase of furniture. He is going to discontinue carrying the brands that are used in such tie-in sales.

"What about your trade-in policy on refrigerators?" Mr. Eichner was asked.

"We've taken only three trade-ins to date," he replied, "although we've had quite a few requests to do so. Customers are told they will be better off to sell their used refrigerators through newspaper advertising."

"The day will come, of course, when trade-ins will have to be accepted. When this day comes, we plan to pool our trade-ins with some other dealers on a cooperative basis."

"We have already discussed this situation with these dealers and have made plans to set up a store for this

purpose. Probably one man will be hired to recondition the refrigerators and another to sell them."

Customers who come to King's from other areas now find the store easily identified by a new 20-ft. roof sign. The sign bears 36-in.-high letters illuminated by neon tubing.

Once inside the 40 x 100-ft. building, patrons see a clean, neat-appearing store having a linoleum-covered floor, light blue walls, and a white ceiling from which three rows of fluorescent lights are suspended. Cleanliness, it seems, is a bit of a fetish with Mr. Eichner, so he retains what he calls "the highest-paid porter in the city" (\$70 a week) to wash off all equipment daily, wash the floor twice daily, and wax it once a week.

Three other features of the King operation worth noting pertain to financing, the books, and salesmen's pay.

### No Floor Financing

No floor financing is used by the firm. It pays cash for all appliances.

Although one bookkeeper is employed, she does only the posting. The books are supervised by two CPAs who come to the store once a week.

Salesmen are paid salaries plus bonuses, no commissions.

Besides refrigerators, ranges, home freezers, and washers, the store handles such appliances as water coolers, water heaters, room air conditioners, commercial reach-ins, dishwashers, disposals, vacuum cleaners, room heaters, a full line of traffic appliances, and radios.

Apropos of the radios, it might be worth mentioning that Mr. Eichner believes the recent introduction of television sets in Detroit by many appliance stores has set back the sale

of console combinations six months. He wouldn't be surprised if these stores did themselves out of several thousand dollars worth of console business.

His opinion is that most potential console buyers will now wait for improved television sets. Consequently, he has cancelled his console orders.

## National Assn. Organized For Bottled Gas Dealers

FORT WAYNE, Ind.—A national association of bottled gas dealers was formed recently here with headquarters at 1115 South Clinton St. It is the Liquefied Petroleum Gas Dealers Guild.

John Paul Jones, Indianapolis, is president, and John D. Haynes is secretary-treasurer, and Frank H. Keppen, Michigan City, vice president and chairman of the board.

First of the sectional meetings to be held throughout the country was held in Fort Wayne with about 30 gas dealers from northeastern Indiana present. Speakers included William Kenefick, South Bend, counsel for the Guild, and Fred McCarthy, Chicago, public relations counsel from the firm of Abbott-Kimball Co.

## G-E Combines 2 Divisions In Air Conditioning Dept.

BLOOMFIELD, N. J.—The field engineering division and the commercial engineering division of the Air Conditioning Department of General Electric have been combined under the title, Commercial Engineering Divisions, G. R. Prout, vice president and general manager, has announced.

**PAR** REFRIGERATION EQUIPMENT

**Tops in PERFORMANCE ECONOMY and EFFICIENCY**



**Lynch** Manufacturing Corporation  
General Offices, Toledo 3 • Factory, Defiance, Ohio, U.S.A.

**"AVAILABLE FOR DELIVERY" THE NEW MANBROOK CONDENSING UNITS**

**1/8-1/2-3/4-1 Horsepower Complete with motor and control**

**MANBROOK INC.**

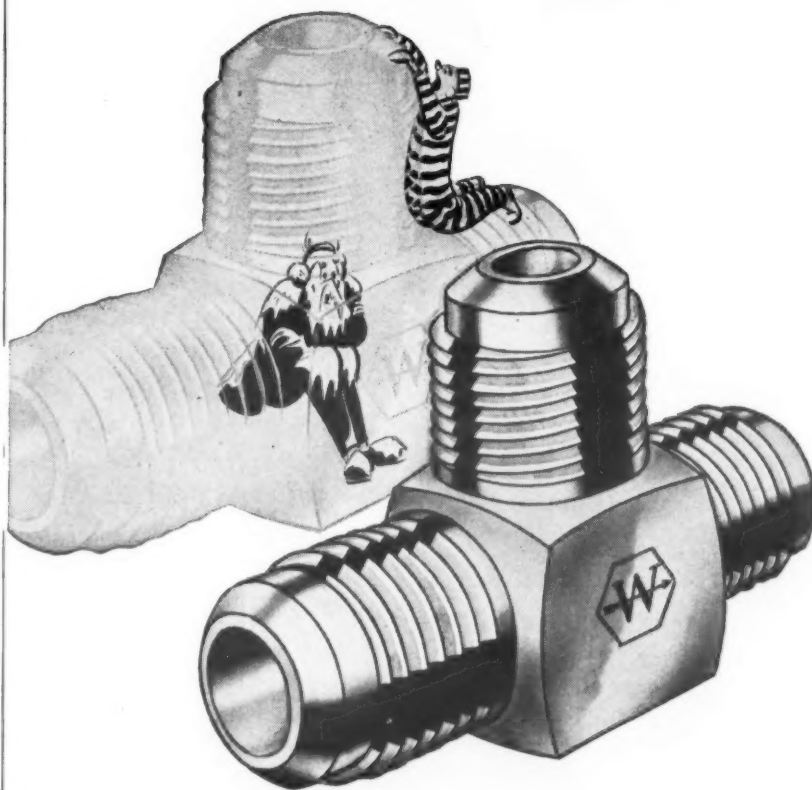
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The only publication servicing the industry in Canada

**National Business Publications Limited**  
Gardenvale, Que. - Canada

**KEEP COLD IN AND TROUBLE OUT with Weatherhead refrigeration fittings**



ANY refrigeration installation is only as good as its poorest fitting. To keep trouble out, use the best you can buy... Weatherhead sharp thread, precision fittings, made to S.A.E refrigeration standards in a complete range of sizes and types.

The complete Weatherhead line includes long and short forged brass flare nuts, flare to pipe connectors, double end flared unions, sealing caps and plugs and every other type of fitting you need. Name it and we make it. Rely on Weatherhead precision for fast assembly work and long trouble-free field service.

Ask for your copy of the Weatherhead Refrigeration Catalog. It's especially useful for those engaged in service and installation work.

Look Ahead with  
**Weatherhead**

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO



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## ATTENTION REFRIGERATION ENGINEERS!

We manufacture valves, dehydrators, strainers, manifold assemblies, accessories and fittings—an extensive line of original equipment for the refrigeration industry.

## 110 Shops In \$11,000,000 City Shopping Center Plan To Install Air Conditioning



ST. LOUIS—When the gigantic \$11,000,000 Hampton Village Shopping Center here is completed, every one of its 110 retail shops will be completely air conditioned, for both winter and summer operation.

That, at least, is the plan of the Boulevard Frontage Co., local realtors who have laid out the 14 square block center at Hampton and Chippewa Blvds. here.

Five ton Servel self-contained gas air conditioners, each engineered for the specific needs of a particular

shop, are being used, according to Harry Brinkop, head of the realty company. Twenty-two such units have already been installed in the center.

The Hampton Village Shopping Center is located close to the wealthier suburban districts southwest of the city. When completed, it will offer shoppers everything from food and furniture stores, to medical centers, cocktail lounges, music shops, and what is expected to be the world's largest supermarket.

Parking facilities for 2,500 cars are included.

The buildings of the center were completed before the war. Five more are under construction at present.

Negotiations for the purchase of the gas-fired air conditioning units were begun several years ago, when it was decided that a central air conditioning system would not suffice, due to the individual nature of the shops, according to Mr. Brinkop.

Engineering of the installations is being done by M. A. Disney, head of the air conditioning department of the Laclede Gas Light Co., and D. J. Fagin, assistant to the sales manager.

Slight differences in duct work and unit housing are built according to the need of the shop keeper.

Each of the air conditioning units is said to be over capacity for summer and winter use and will maintain a guaranteed 80° F. the year-round.

### Year-Round Air System Set For First Lynchburg Dept. Store

LYNCHBURG, Va. — Baldwin's Dept. Store here will be completely air conditioned with a year round system, said to be the first one installed in a department store in this city.

The air conditioning will be installed by George A. Holder & Co., Inc. and will feature separate temperature control for each floor, although equipment will be located in the basement. The contractor points out that this will be accomplished through the use of pneumatically operated control equipment throughout the installation.

## Engineers, International Labor Group Map World-Wide Exhaust Ventilation Code

When Adopted, the Measure Will Protect Workers In 57 Nations Against Hazards of Industrial Gases

WASHINGTON, D. C.—A proposed international exhaust ventilation code, drafted by the International Labor Organization, was recently reviewed here by a group of outstanding American ventilation engineers, industrial hygiene engineering authorities, and interested members of the U. S. Department of Labor.

The code, when finally adopted by the I.L.O., which is composed of employer, employee, and government representatives of 57 nations, will be transmitted to the governments of these countries as a guide for the protection of workers against the hazards of industrial gases, dusts, fumes, and vapors, according to Labor Dept. officials.

The draft under review incorporates accepted techniques, designs, and methods for the engineering control of these work hazards. It was originally compiled by a member of the I.L.O. committee on accident prevention from various existing American codes, with consideration given to British and European viewpoints, Labor Dept. officials said.

Copies of the draft have been submitted for review to ventilation authorities in other countries, too. All suggestions made by these authorities will be forwarded to the I.L.O. committee for review at a conference in Montreal next August.

That committee will then prepare a final draft and submit it to the executive board of the I.L.O. The executive board will schedule the code for consideration at a subsequent I.L.O. conference as a draft convention or treaty, Labor Dept. officials declared.

The American meeting was called by the Labor Dept.'s division of labor standards. Presiding over the conference was W. N. Witheridge, ventilation consultant of the Industrial Hygiene department at General Motors Corp. in Detroit.

David A. Morse, assistant secretary of labor, told the group that it was desirable to enter international code preparation in an early phase.

He stressed the importance to American industry and labor of bringing world labor standards in

line with the best practices so that neither may suffer from unfair international competition or sub-standard working conditions.

Attending the meeting were: Cyril Ainsworth, assistant secretary, and D. F. Hayes, safety engineer, of the American Standards Association; Allan D. Brandt, industrial hygiene engineer of Bethlehem Steel Co.; Richard L. Higgins, chief safety engineer of the department of labor of New Jersey; John M. Kane, chief engineer of the dust control division of American Air Filter Co.; Swen Kjaer, industrial safety consultant and I.L.O. committee member; George W. McCormick, Jr., Propellor Fan Manufacturers Association; Benjamin F. Postman, industrial hygiene engineer of Employers Mutual Liability Insurance Co.; Warren Watson, of the Manufacturing Chemists Association; William Harris, engineer, industrial hygiene division of the New York State department of labor; W. O. Vedder, manager of the dust control department, Pangborn Corp.; and Mr. Witheridge.

In addition to Mr. Morse, members of the Labor Dept. attending were: William L. Connolly, director of the division of labor standards; Clara M. Beyer, associate director of the division; William G. Marks, chief of the safety and health branch; R. P. Blake, principal safety engineer; and S. C. Rothmann, industrial hygiene engineer.

The following individuals reviewed the proposed code and submitted their comments:

Theodore Hatch, Industrial Hygiene Foundation of America; A. B. Epple, assistant professor in the department of mechanical engineering, University of Michigan; G. L. Tuve, professor of mechanical engineering in the department of mechanical engineering, Case School of Applied Science; A. P. Kratz, department of Mechanical Engineering, University of Illinois; S. Konzo, special research professor in the department of mechanical engineering at the University of Illinois; and Roy P. Warren of the air cleaning department, Buffalo Forge Co.

Table 4—Self-Contained Air Conditioning Units and Absorption Systems: First and Second Quarters 1946 (Revised)

Product	Shipments of Complete Units				Export†	No. of Plants Reporting
	Total No.	Value (dollars)	Domestic† No.	Value (dollars)		
First Quarter 1946						
Self-contained air conditioning units						
Store type .....	4,591	3,285,995	4,385	3,150,912	206	135,086
2 and 3 tons\$. .....	1,512	766,958	1,390	711,717	122	55,241
5 tons .....	2,519	1,719,511	2,454	1,670,682	65	48,829
7.5 tons .....	311	287,200	304	279,879	7	7,321
10 tons and over\$. ..	249	512,329	237	488,634	12	23,695
Room type .....						
Miscellaneous air conditioning and refrigeration equipment, including absorption systems ..	*	387,895	*	374,746	*	13,149
Second Quarter 1946						
Self-contained air conditioning units						
Store type .....	4,925	3,472,393	4,722	3,345,731	203	126,662
2 and 3 tons\$. .....	1,810	926,263	1,720	873,879	90	52,394
5 tons .....	2,686	1,911,416	2,578	1,842,226	108	69,190
7.5 tons .....	261	258,586	256	253,498	5	5,088
10 tons and over\$. ..	168	376,128	168	376,128	1	1
Room type .....						
Miscellaneous air conditioning and refrigeration equipment, including absorption systems ..	*	916,151	*	911,264	*	4,887

Note: The symbol "T" denotes zero. The symbol "N" denotes not applicable. \*Continental United States. †Includes Canada, Mexico, and United States territories. ‡Combined to avoid disclosure of operations of individual companies. §Data on shipments of room type air conditioning units revised as follows for first and second quarters combined, to avoid disclosure of the operations of individual companies: Total—8,759 units, \$1,606,073; Domestic—8,346 units, \$1,509,508; Export—413 units, \$96,565.

The above charts are official revisions of figures on air conditioning shipments which appeared in the Jan. 20 issue of the NEWS.

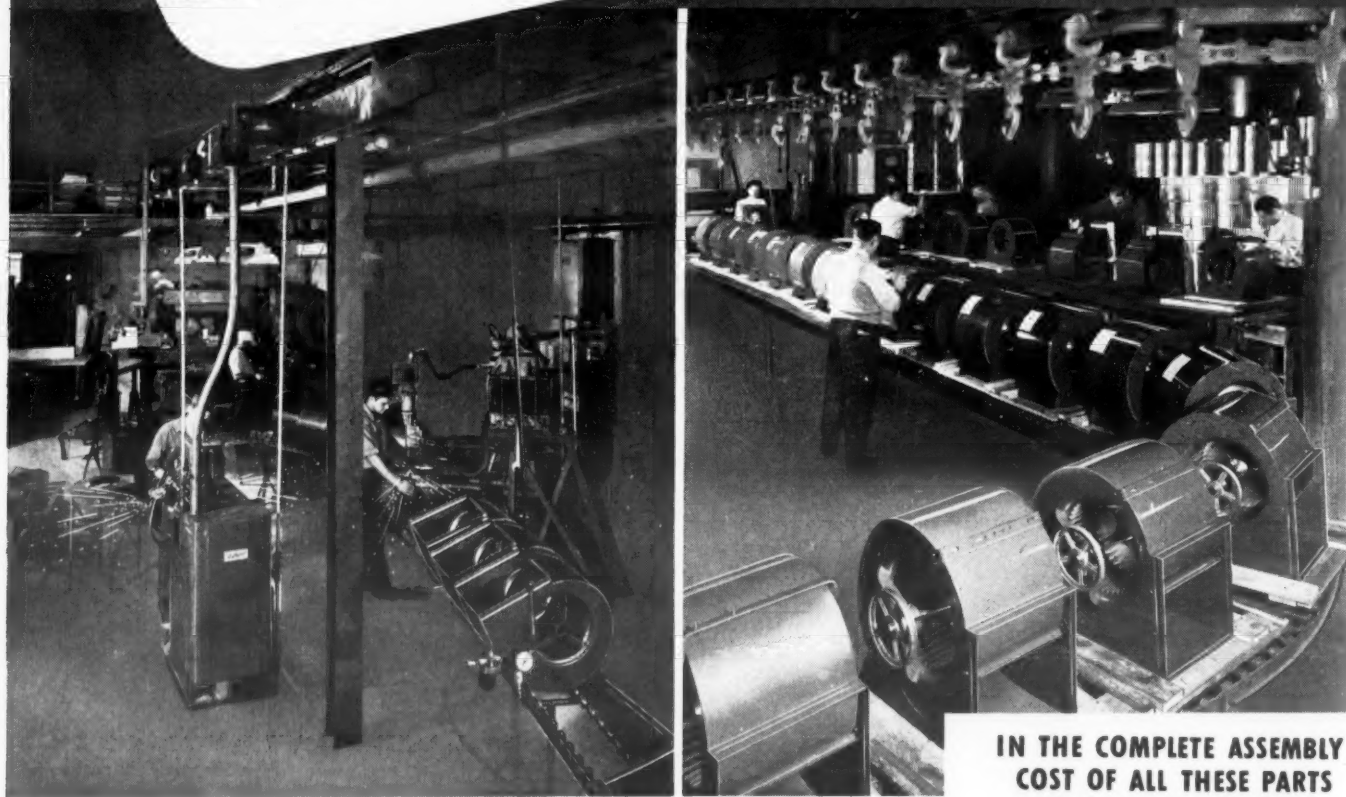
### FASHIONED FOR FUNCTIONING

Even the handsome, engineered good looks of Larkin refrigeration products contribute to their fine performance. The originator of the Cross Fin Coil also offers you matchless quality In Air Conditioning Units—Evaporative Condensers—Instantaneous Water Coolers—Humi-Temp Forced Convection Units—Bare Tube and Zinc Fused Steel Plate Coils—and complete equipment for commercial and industrial refrigeration.



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**Lau Blower** mass production methods  
CANNOT BE MET by small-quantity assemblers



IN THE COMPLETE ASSEMBLY  
COST OF ALL THESE PARTS  
MUST BE CONSIDERED

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- Shaft
- Bearings
- Collars
- Washers
- Nuts
- Bolts
- Bearing Support
- Blower Support
- Motor Mounting
- Cutoff
- Housing Sides
- Housing Back
- Blower Pulley
- Motor Pulley
- Belt

And, besides, there are labor, purchasing, warehousing, painting and stocking costs, material spoilage and waste, attendant merchandise losses, inventory costs, plant handling, and the cost of final assembly. If blower is not installed in the furnace before shipment there are additional, expensive packaging costs.

There are many positive advantages—the ultimate one being *exact, known costs*—in buying blowers completely assembled, packaged, ready to put on the line. It may seem a simple matter to buy wheels and then build housings for them. But it isn't so simple—your problems are innumerable, and your costs questionable. Besides, the combination may not be exactly right for efficient air delivery performance.

Lau has an investment of thousands of dollars in engineering and equipment to say nothing of years of testing and research in order to produce standardized blowers with precision-matched wheels and housings for best possible performance. Performance is a known quantity. Costs are known. Mass production facilities of this largest manufacturer of furnace blowers make it possible for Lau to offer you unmatched low prices for complete blower assemblies. If you've been thinking about building your own blowers, get all the facts first. Write.



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WORLD'S LARGEST MANUFACTURER OF FURNACE BLOWERS



## Wholesaler Finds In 'Hotel Showing' A Way To Exploit Larger Equipment



Joseph Simons (second from right), Hartford refrigeration equipment wholesaler, points out some features of the Gemco air conditioner to Morris Firestone, one of his customers, during a special hotel showing he held recently. Around the Heat-X-Changer water cooler (from left to right) are Stanley Lipsky, Stanley N. Baldwin, Robert A. Malarkey, John K. Campbell.

HARTFORD, Conn.—Joseph Simons Co., refrigeration equipment wholesaler here, held a rather unusual "hotel showing" this month of some of the products it sells its customers. The special showing was on certain products which did not lend themselves to display on the floor of the Simons company headquarters. Displays of the products were set up in the Bond hotel, and customers were invited to attend from 10 a.m. to 5 p.m.

Among the products shown were the Gemco packaged air conditioner, the complete line of Heat-X-Changer water and beverage cooling equipment, including the cafeteria water cooler; Temprite and Coolstream water coolers, and Brunner and Air-Rite beer pumps. Joseph Simons, head of the wholesaling firm, said that the show got an enthusiastic reception and that he plans to hold similar ones throughout the year.

## Wholesalers Buy Biggest Part of Surplus Property

WASHINGTON, D. C.—Wholesalers carted away 33% of the government surplus property having an original value of \$1,237,000,000, which was disposed of by the War Assets Administration between November, 1946, and February, 1947, WAA officials have announced. They purchased surplus goods costing the government \$408,000,000.

For the same period, manufacturers and other industrial users snapped up 29% of the property, which had an original cost of \$362,000,000. War veterans took 21%, or \$266,000,000 worth.

The remaining 17% went as follows: retailers, 8%, or \$97,000,000; Federal government, 4%, or \$47,000,000; and all other classes of buyers, 5%, or \$57,000,000.

## Wilshire Refrigeration Is Los Angeles Firm

LOS ANGELES—Wilshire Refrigeration Co., Inc. has been formed in Los Angeles County, with 2,500 shares of no par value capital stock, to operate a general appliance and refrigeration business.

Directors are Owen C. Towle, John W. Stone, Jr., and Seth A. Dinwiddie.

## For Salesmen and Customers, Dealer Says 'Picture' Manual Is Best for Comfort Cooling

JACKSONVILLE, Fla.—Charles W. Hughes, Inc., Chrysler Airtemp dealer here, has simplified the packaged air conditioning picture for both salesmen and prospects by pictures.

Photographs of outstanding installations made by the firm for well-known local concerns make up the first section of its sales manual. By showing all single and multiple installations such as the cooling tower, conditioner, and furnace, Mr. Hughes tells the whole story in one picture.

If duct work is used, "shots" of it are included. If the units distribute from a plenum, the method of distribution is plainly shown. Electrical switches appear clearly in the photographs, which also indicate the amount of plumbing needed.

This section is followed by cutaway pictures of the units, and then by the specifications. Testimonial letters from the users complete the manual.

"With this book and an order pad, we find that it is easier for the salesman and the customer to understand air conditioning," said William S. Gregory, sales manager.

The simplicity of the manual, according to Mr. Gregory, enables the salesman to do a more effective selling job.

"We have found, from a technical standpoint, that the less a salesman knows about the engineering and mechanical operation of the unit, the better he can present his product to the customer," he reported.

"For instance, we only instruct a

salesman on 10 points of operation for the 3 and 5-hp. air conditioners: the fan, coil, fan motor, thermostat, sealed radial compressor, turn-on switch, cooling switch, "Freon" chamber, electrical outlet, and water connections.

"By the use of these 10 points, the salesman can give a complete story in simplified form without getting into a lot of confusing technicalities, as the specifications are so set up on these machines as to give him any other information the customer may ask."

The manual was prepared by company officials under the supervision of Mr. Hughes. Because the firm feels that refrigeration also should be emphasized, pictures of commercial installations are to be added along with those of heating jobs.

"There are many times when you make a contact to sell air conditioning and the prospect is also in the market for commercial refrigeration," Mr. Gregory observed. "Even though you may not sell him air conditioning, you stand a good chance of selling some refrigeration. This is the point that we try to stress in our organization."

Selling in the south, incidentally, is different than elsewhere, according to Mr. Gregory. Down here, he explained, it's much easier to sell a prospect if you take him to one of your installations and let him see for himself how it works.

This, he revealed, is "southern sales etiquette."

### IMMEDIATE DELIVERY!

6 and 8 hole 30-40 gal. ice cream cabinets. Complete with 1/3 horse hermetic sealed units.

### WILSON FREEZERS, INC.

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### HEAT TRANSFER EQUIPMENT

**MARLO**  
COIL COMPANY  
SAINT LOUIS, MISSOURI

### BRAND NEW

UNIVERSAL REFRIGERATION  
CONDENSING UNITS

### LIMITED QUANTITIES

1/2 H. P. Compressors with Motors  
1/3 H. P. Compressors with Motors

### MONARCH

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Cleveland 3, Ohio

## New Service Engineers Group In N. Y. State

ELMIRA, N. Y.—Southern Tier Chapter, Refrigeration Service Engineers Society, received its charter at a banquet in Hotel Mark Twain recently.

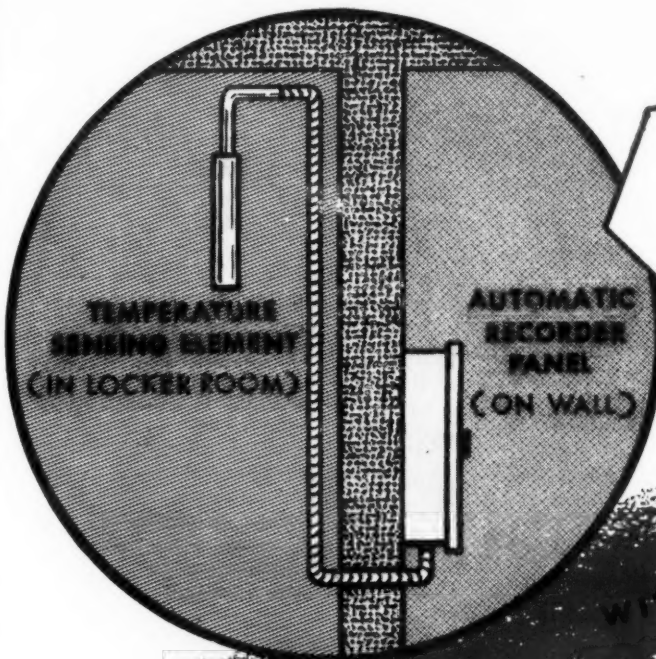
Charles E. Harris of Cambridge, Mass., national vice president of the organization, presented the charter and installed the following officers: George F. Pickel, president; James C. Barkalow, first vice president; Jack Bilson, second vice president; Charles Clay, secretary; and Karl Krug, treasurer.

## New Guide Offered on Cooling Tower Equipment

VERNON, Calif.—A cooling equipment guide, said to include complete data on the latest innovations in the cooling tower equipment industry plus information on current cooling problems, is now being distributed by the Santa Fe Tank & Tower Co. here.

Copies of the publication, known as C. E. 47, may be obtained by writing the company at 5401 Boyle Ave. here.

Santa Fe's cooling equipment division is under the direction of Harold A. Dresser.



POSITIVE PROOF

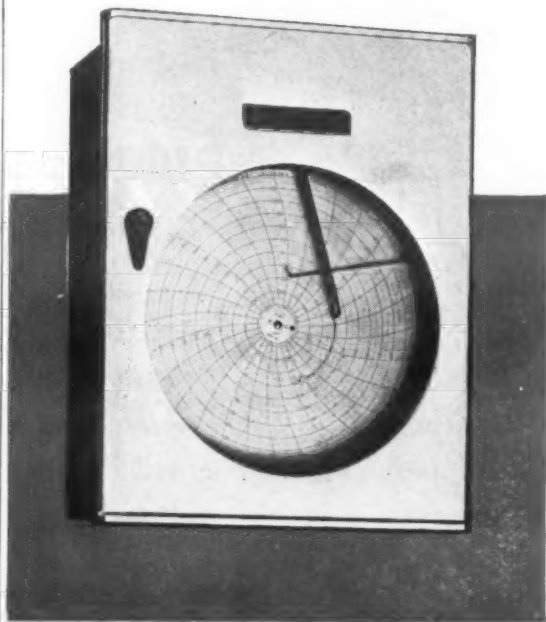
of LOCKER PLANT TEMPERATURES

HONEYWELL  
AUTOMATIC RECORDER

LOCKER plant temperatures for positive proof can now be accurately recorded with the new Honeywell Automatic Temperature Recorder.

A continuous week's record of your locker plant temperatures is recorded on each disc, which is permanent and may be filed as positive proof to safeguard against claims of food spoilage, or to tell the exact minute of failure in the event this occurs. Temperatures from -30° to +70° F. are recorded, easily covering normal temperatures with ample range for abnormal conditions. By means of a conduit the automatic temperature recorder panel is placed on the wall, outside the locker room, in full view of your customers and attendants at all times.

Moreover, assurance that their stored foods are kept at safe temperatures and protected against spoilage will promote the satisfaction of your customers. The Honeywell Automatic Recorder also sells prospective customers on the reliability of your service, by its unerring performance. Get complete information now about this newest Honeywell refrigeration control. Ask your contractor or jobber, or write Minneapolis-Honeywell Regulator Co., 2659 Fourth Ave. So., Minneapolis 8, Minn. Branches and distributing offices in all principal cities.



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MINNEAPOLIS  
**Honeywell**  
CONTROL SYSTEMS

## What's New

### Frigidaire RJ-60 Has Deeper Broiler

DAYTON, Ohio—Model RJ-60, a deluxe unit in Frigidaire's new line of five ranges, features a smokeless broiler twice as deep as that in former models.

The range, (shown at right) has three fast-heating surface units, a deep-well cooker, a large oven, a warming oven, and a full-width utensil drawer.

Finished in porcelain and chromium, RJ-60 has a roll-front top constructed of one-piece steel which extends from the rear across the surface and down over the switches.

Other features in this model are a chromium toe plate, a reflector pan in the broiler which can be turned over to make a roaster pan, a Cook-master clock, and an electric outlet that can be controlled automatically for the independent operation of electric coffee-makers, waffle irons, etc.

Suggested retail selling price for the RJ-60 has been set at about \$279.75 by Frigidaire.

Top model in the new Frigidaire line is the RJ-70, which in addition to all the features of the RJ-60, has two complete broiling, baking, and roasting ovens. This model will have a retail price in the neighborhood of \$329.75, the manufacturer said.

Selling points for all the ranges in the line include a slanting recess at the base of the range to provide toe room, and sides that meet the



floor in a sled-runner design which makes it easier to move the range across the linoleum without damage to the floor surface, a company statement said.

In addition, the oven in each range has nine different shelf levels, a counter-balanced door, and drawers mounted on roller bearings.

Company specifications list the ranges as 40 in. wide, 25 in. deep, and 36 in. high. All panels, doors, and drawers are flush fitting to reduce the number of places where dirt can accumulate.



Hygeator incinerator

### Incinerator Operates on Down-Draft Principle

BUFFALO—Hygeator Corp. announces that it is now in full production here on a new portable household incinerator operated on a patented down-draft principle which causes the fire to burn from the top downward.

Known as the Hygeator, the appliance is said to differ from other small movable incinerators largely in its capacity to consume approximately two bushels of garbage and refuse at a time. It is 20 in. square, 32 1/4 in. high, and weighs 140 lbs.

Explaining the down-draft principle, Hygeator says it reverses conventional methods.

"The air passes down through the organic substance, withdrawing and dissipating the moisture," it is reported. "This drying or dehydrating is augmented by the heating units which can be regulated to speed this action, if necessary."

"When the materials in the chamber become dry enough, they are ignited by the pilot of the heating element and combustion takes place. The action is gradual, but in most cases is fast enough to dissipate the contents . . . daily."

The Hygeator is claimed to provide completely odorless disposal of all refuse, garbage, infectious rags, and clothing. Its down-draft principle results in the consumption of all odorous gases.

Other claims made are that the incinerator gives off very little heat and is "extremely economical."

Finished in white or red enamel, the unit is available in both gas and electric models. It is recommended for installation in kitchens, basements, or service rooms.

### Marlun Mfg. Features Broiler With Built-In 'Shock-Absorber'

NEW YORK CITY—A new model electric broiler, the Ritz Coronet, has been introduced recently by its manufacturer, the Marlun Mfg. Co. here.

Known as Model 1948, the broiler features specially constructed spring hinges that connect the top to the base and act as shock absorbers.

Chrome plated on heavy brass, the Coronet has concealed vents beneath the handles and louvers in the dome to provide necessary circulation. The nichrome heating element is enclosed in a rectangular black glazed ceramic block.

### Portable Refrigerator --

(Concluded from Page 1)

available in eight different color combinations, measures 22 in. high, 28 in. long, and 16 in. deep. It weighs 55 lbs. and operates on either d.c. or a.c. current, according to the manufacturer. It has an 11 lb. ice capacity and space for eight ice trays.

Use of a cold plate makes defrosting unnecessary, the manufacturer said. The refrigerator has an aluminum inner and outer shell. It contains 2 in. of Fiberglas insulation, a Ranco Control, and nickel-plated shelves.

The Freez-Pak is equipped with an open-type condensing unit which is easily accessible behind a removable panel, the manufacturer stated. Freez-Pak will be "fair-traded," company officials asserted, and will afford the dealer a liberal markup. National advertising plans are already being formulated, the sales organization has announced.

Danese & Jewel is planning to service the New York metropolitan area directly from its office. Dealers in other territories will be supplied with additional compressors, it was said.



2 1/2-cu. ft. Freez-Pak portable electric refrigerator.

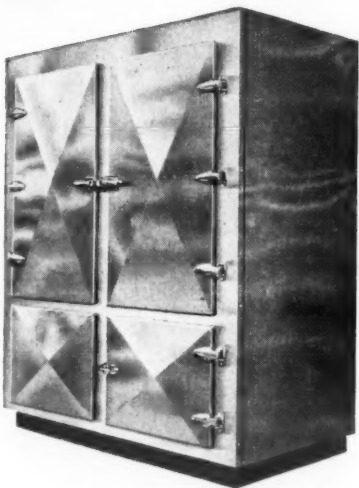
# M

## MARVEL

### QUALITY LINE of Refrigeration

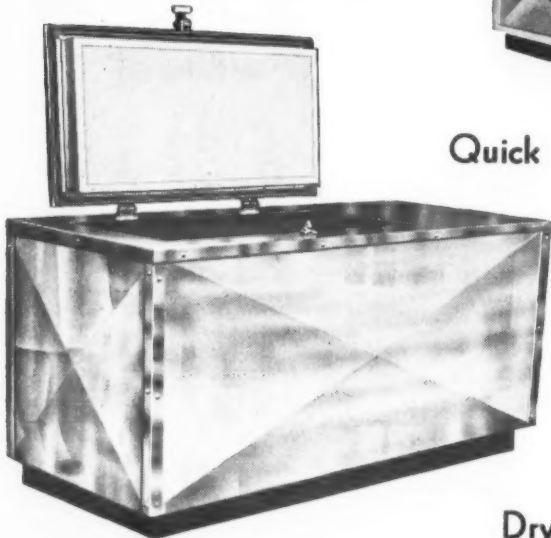
#### Reach-in Cooler

72 in. high, 61 in. wide, 34 in. deep. Cooler model has 37 cu. ft. cooling space. Combination model has 11 cu. ft. freezing, 23.5 cu. ft. cooling. Insulation 5 in. around freezer, 3 around cooler. 1/3 HP compressor. Blower coil. Adjustable controls.



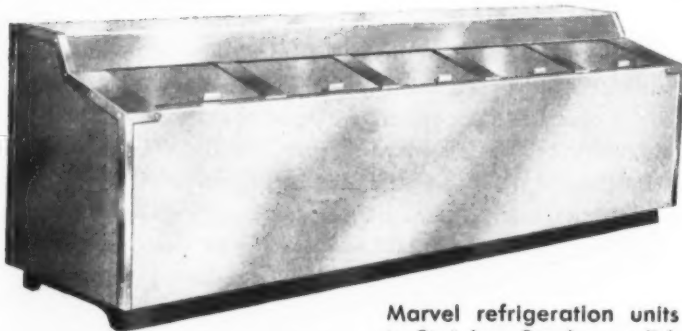
#### Quick Freeze Locker

34 in. high, 72 in. long, 30 in. wide. 12 cu. ft. capacity. Large lid, 23x45. 1/4 HP compressor. Range from 15° below zero to 3° above. 5 in. insulation.



#### Dry Beverage Cooler

39 in. high, 30 in. wide, 6, 8, or 10 ft. long. Lids slide away or lift out. Removable dividers. 8-in. utility shelf.



Marvel refrigeration units are finished in Stainless Steel or polished Aluminum.

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Write, wire or phone today for information on franchise.

Immediate Delivery!

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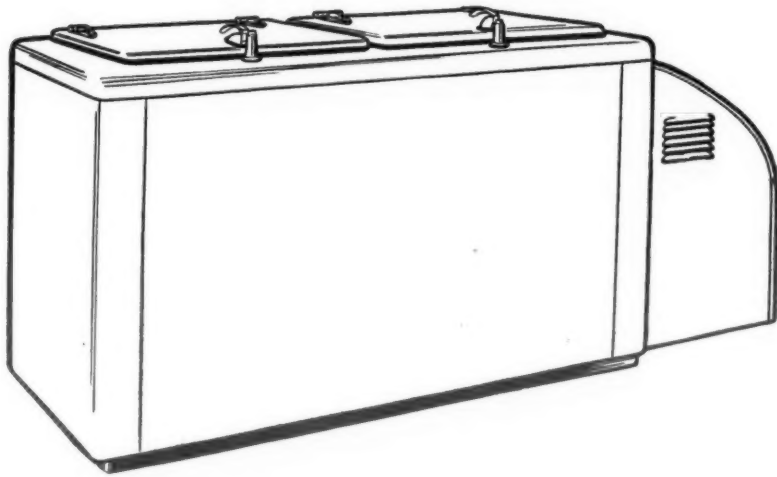
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Industries

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## Sanitary Quicfrez



**THE PIONEER OF FARM LOCKER PLANTS NOW READY FOR IMMEDIATE DELIVERY**

COMPLETE, with Condenser Units—ready for you to install. EVERYTHING about the "QUICFREZ" Farm Locker Plant is engineered and built for years of dependable service. Thousands in daily operation since 1939. PLACE YOUR ORDERS NOW!

Sanitary has several good openings available for salesmen.

## SANITARY REFRIGERATOR COMPANY

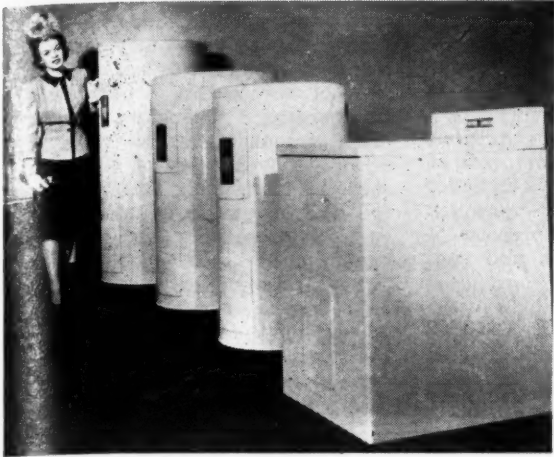
FOND DU LAC

WISCONSIN

Ice Refrigerators for More Than 40 Years—Quicfrez Farm Lockers Since 1939

## What's New (Cont.)

### Line-Up of 1947 G-E Water Heaters



At left, a model inspects General Electric's completely re-fashioned line of electric water heaters. Released simultaneously with the firm's new line of "Speed Cooking Ranges" (NEWS, March 24), the water heaters are shorter in height than former models and vary in capacity from 15 to 82 gallons.

### Kitchen-Aire Ventilator Has Home, Commercial Use

INDIANAPOLIS—A new electric ventilator in both domestic and commercial models is now in volume production here by the Stewart Mfg. Co.

The two models, Kitchen-Aire Six (for home kitchen installation) and Kitchen-Aire Eight (for restaurant and other industrial uses) share a number of advantages, the manufacturer claims.

Chief among these is that both blade and motor in the Kitchen-Aire are located in a metal enclosure and mounted outside the wall. This per-

mits the grease-laden air to be discharged without first passing over the motor, and thus reduces the fire hazard. Furthermore, the unit is a centrifugal type ventilator whose motor cannot become overloaded, company officials emphasize.

As the model name indicates, the Kitchen-Aire Six requires only a 6 in. diameter opening, and the Eight an 8 in. opening. Either model can be mounted on the wall or the ceiling. For other than side wall mounting, the ventilator inlet enters between the joists and standard sections of pipe can be used for runs up to 30 ft.

Since the motor is mounted outside the wall, a cover and deflector is provided as protection against adverse weather conditions. In addition, a patented automatic damper prevents drafts or excessive heat loss.

Because of the outside wall mounting, the noise of operation is minimized. The Kitchen-Aire impeller is said to be self-cleaning, and since the motor is not in the path of the air stream, it too requires no cleaning.

Run by a 1/2-hp. motor, the Kitchen-Aire Six operates on 110 volt, 60 cycle a.c. and has a polished aluminum grille covering the kitchen outlet. On the "Eight" model the 1/4-hp. motor powers heavy duty balanced blades and is capable of handling up to 20 sq. ft. of canopy area.



The Verti-Mount holding the Eject-O-Matic soldering iron.

### New Soldering Accessory Leaves Both Hands Free

NEWARK, N. J.—Multi Products Tool Co. here has just announced Verti-Mount, a treadle accessory for use with its Eject-O-Matic automatic feed soldering iron. With the Verti-Mount, it is claimed, the Eject-O-Matic can be operated by foot action alone leaving the hands free to handle the work.

The Verti-Mount consists of a vertical steel column with a flanged base for attaching to the bench and a positive clamp at the opposite end for holding the soldering iron.

A rod, connected at one end to the mounting clamp, extends down the vertical tube and through a hole drilled in the bench. The lower end of the rod is linked with an adjustable chain to a foot treadle, which is hinged to the floor, the manufacturer explains.

A soldering platform is spring mounted and clamped to the vertical column. A fixed roller stop is positioned near the top of the vertical

column; this trips the trigger of the Eject-O-Matic.

Any size Eject-O-Matic can be used. The operator holds the work in position and presses the foot treadle. As the Eject-O-Matic descends the tip clamps the work to the platform, and preheats the work to proper soldering temperature. Further downward motion of the iron completes the stroke, trips the trigger, and ejects a measured amount of solder, it is explained.

The company points out that the Verti-Mount may be easily detached for hand use of the soldering tool.

### Aluminum Paint Deflects Sun Rays Hitting Roof

SCRANTON, Pa.—Gerald B. Payne, president of the United Gilsonite Laboratories, Scranton, reports that "Gilsalume" has been registered as the name of the company's new aluminum roof paint that provides year-round weather-proofing and an aid to summer cooling for homes and business structures.

"The name," Mr. Payne said, "identifies the principal elements in the new paint's protective and insulating properties: a gilsonite asphalt and pure aluminum pigment." Its use serves to deflect 85% of the sun's heat rays, according to Mr. Payne.

Gilsalume is suitable for use on asphalt shingles, smooth or slate roll roofing, built-up slag or metal roofs, non-porous masonry and outside metal work, including tanks, fences, and flashings. It is applied with brush or spray gun. A gallon covers approximately 400 sq. ft. It is packaged in quart, gallon, and five-gallon containers, ready mixed, and requires no thinning. Only one coat is required.

Lynn-Fieldhouse Advertising Agency will handle the advertising and sales promotion for Gilsalume, which will be distributed nationally through paint and hardware stores.

### EQUIPMENT FOR SALE

Air conditioning units consisting of 1/2 hp Bishop-Babcock Compressor Body made for B & B by Servel Refrigerator Co.

1 16" X 24" Kramer Double row condenser.

1 3 1/2" X 14" heavy duty receiver with safety plug and test cock with approximately 5 lbs. of "Freon."

1 Detroit Lubricator 2 ton Expansion valve.

1 Peerless Thermac evaporator blower unit cooler 12" X 24" X 6".

10 ft. each of 5/8" and 1/2" tubing with vibrator eliminator attached.

Compressor body base attachable to automobile motors.

Also 60 other items including bolts, nuts, bases, and brackets.

These units were built for Chrysler Corp. to condition their Chrysler cars.

All the above equipment is new. Cost approximately \$300.00. Our prices \$70.00 F.O.B.

These units are knocked down in shipping crates weighing approximately 200 lbs.

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CA 5125

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## WANTED MANUFACTURER OF BEVERAGE COOLER

We want to place a \$300,000 annual order for delivery over a 12 month period . . . middlewest. We have the patents and the orders—but no plant. Permanent arrangement, not temporary. Full details furnished. Interview arranged in your city.

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Air Conditioning & Refrigeration News

## "BEMCO" DIRECT DRAW DISPENSERS



**MANY  
MORE  
MODELS—NOW AVAILABLE—**

**Also: Stainless Steel refrigerated back bars, reach-ins and bottle coolers.**

Our present production enables us to offer our famous "BEMCO" Dispensers and coolers to a few more selected dealers in unassigned territory.

*Write or phone for full information.*

**"BEMCO" MFG. CO.**

Since 1933

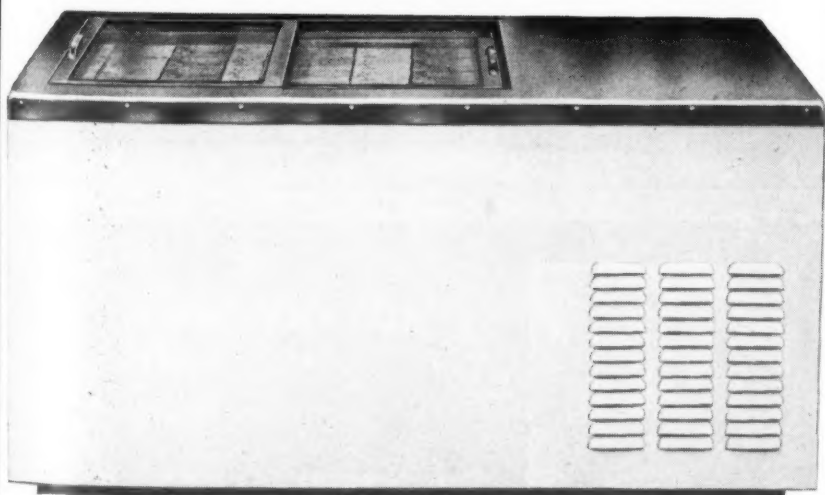
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Since 1933

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## The SENSATION of 1947



Model 510 A

*Check these  
Features!*

- 2 THERMOPANE SLIDING GLASS DOORS
- POLISHED STAINLESS STEEL TOP
- BUILT-IN 4 WALL REFRIGERATION
- ALL WELDED HEAVY GAUGE STEEL CONSTRUCTION
- HYDROLENEED FOR VAPOR SEAL

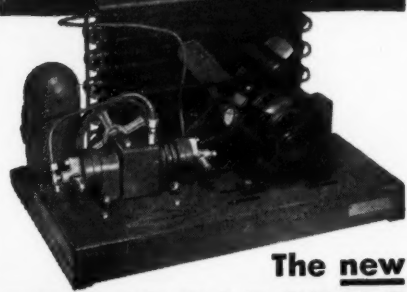
This 10 cubic foot all welded steel self service frozen food display cabinet is designed to meet the needs of the average store.

This self-contained, smartly styled, and superbly built cabinet eliminates the problems of:

- Lack of space
- Fear of overstocking
- Fear of investing too much

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## A MIGHTY MIDGET



### The new CONTROLDTEMP 2-Stage Condensing Unit

Air Cooled • 1/2 hp. • Package Type

Immediate delivery—less motor. Motor quotations on request.

Small, compact, efficient. Ideal for frozen food cabinets, reach-ins or showcases.

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CORPORATION

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for absorption-type refrigerator, thoroughly tested. Principals only. Please address reply to our advertising agency:

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Boston 9, Mass.

## Refrigeration Problems And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

### Mystery Story (Concluded)

In last week's issue, we told of a grocer who bought an almost new, 1/2-hp. "Freon-12" condensing unit and called an independent service company to install it in place of an old 1/2-hp. "Freon-12" unit on his 12 ft. display case.

Everything went along all right except that the motor would not carry the load at about 15 p.s.i. suction, whereas the average suction pressure seemed to want to balance at about 25 p.s.i.

The service engineer checked about everything: compressor seemed free, belt not too tight; motor itself seemed OK, but its overload protector opened if the suction service valve was not kept throttled down to 15 p.s.i. or lower.

#### THE CLUE THAT LED TO THE SOLUTION

Finally the grocer was telling the service engineer that this unit had come on a self-contained frozen food cabinet, and that he got it because the man he bought it from wanted to

connect the cabinet to the big machine he had that refrigerated a big freezer room; so he didn't need the 1/2-hp. unit.

This was the clue—that the 1/2-hp. unit had come on a frozen food cabinet. This meant that the compressor displacement was selected so that the motor was loaded at a suction pressure corresponding to evaporator temperatures higher than 0° F.

#### THE REFRIGERATION DETECTIVE MUST KNOW HIS 'THEORY'

To fully realize just why the manufacturers do this, it is well to go back and recall some of the "first principles." One of these is that the refrigerating capacity of a compressor or a condensing unit varies directly as the amount of gas that it pumps, measured usually in pounds per minute or per hour. This is reasonable, for 1 lb. of refrigerant has the ability to do a certain amount of refrigeration, so under the same conditions, 2 lbs. can do two times as much refrigerating, 3 lbs. three times as much, and so on.

Thus, if one compressor has twice as much displacement (cubic inches or cubic feet per minute) it will pump twice as much refrigerant, pro-

vided of course that the conditions are the same and the compressors are equally efficient. A 4-cylinder compressor will pump twice as much gas as a 2-cylinder compressor of the same bore and stroke and running at the same r.p.m.

#### COMPRESSOR CAPACITY VARIES AS DISPLACEMENT

This could also hold true with the same compressor. If it were running at 600 r.p.m., it would pump twice as much gas and have twice as much capacity as if its speed were cut to 300 r.p.m.; that is, if its displacement were cut in half. This is shown by the lower curve in Fig. 1.

In saying this, it must be borne in mind that the capacity will vary as the displacement, only if other conditions stay the same; the pressure and temperature of the gas entering and leaving the compressor and the volumetric efficiency. The displacement of the compressor is the number of cubic inches of gas the compressor could pump if there were no losses.

#### VOLUMETRIC EFFICIENCY

There are some losses, though; re-expansion losses, frictional losses, valve losses, and thermal losses; so the average compressor will pump only about 80 or 85% of its displacement and this 80 or 85% is called its volumetric efficiency. To get the true number of cubic inches of vapor a compressor will pump, it is necessary to multiply its displacement by its volumetric efficiency.

These relationships are made clearer by plotting all the curves on the same chart, using the compressor r.p.m. as the basis. For this chart we have selected a 2-cylinder compressor, the volume of each cylinder of which is 2.85 cu. in., so that at 100 r.p.m. it would have a displacement of 570 cu. in. or .33 cu. ft. At 200 r.p.m. its displacement would be .66 c.f.m.; at 300 r.p.m. .99 c.f.m.; at 400 r.p.m., 1.32 c.f.m.; etc., as plotted on the bottom curve of Fig. 1.

The top three curves show the capacity of this compressor running at various r.p.m. It will be seen that its capacity goes up just about as its r.p.m. and displacement, until it gets up to a speed where the losses begin to get rather high (the volumetric efficiency decreases) and the rate of capacity increase begins to fall off; that is, it no longer gains capacity at the same rate at which the displacement and r.p.m. increase.

So, if the volumetric efficiency remains the same (it won't quite), then the capacity of the compressor varies as its r.p.m. (its displacement).

#### COMPRESSOR CAPACITY VARIES WITH EVAPORATOR TEMPERATURE ALSO

Another factor that affects the capacity of the compressor is the temperature of the evaporator. At the higher evaporator temperatures (and suction pressures) the vapor is heavier than at the lower temperatures and pressures and as a result more pounds of refrigerant are pumped, condensed, and evaporated in the evaporator, producing more refrigeration. Therefore, even if the displacement stays the same (same r.p.m.) the capacity of the compressor and condensing unit varies with the suction pressure; the higher the suction pressure, the greater the capacity.

The three upper curves show the effect on the compressor's capacity, of varying the displacement (varying the r.p.m.) at the vapor densities corresponding to the three evaporator temperatures.

#### WATTAGE VARIES WITH DISPLACEMENT, EVAPORATOR TEMPERATURE, AND CAPACITY

The middle three curves show the wattage consumed by the motor at the three evaporator temperatures and at the various compressor speeds from about 300 to 800 r.p.m. It will be noticed that these wattages follow in general the capacity curves. That is, that the greater the capacity of the condensing unit, the greater will be the amount of electricity, measured in watts, that is required to produce the capacity.

With a 0° evaporator, such as used in an ice cream cabinet or frozen food cabinet, the wattage is 310 watts at 300 r.p.m., 400 watts at 400 r.p.m., etc., on up the curve. With a 25° evaporator, such as a finned coil on a defrosting cycle used in walk-in market coolers, display cases, etc., the wattage is 360 watts at 300 r.p.m., 470 watts at 400 r.p.m., etc. With a 40° evaporator, such as a direct expansion finned coil used in air conditioning, the wattage would be 400 watts at 300 r.p.m., 530 watts at 400 r.p.m., etc.

Not only does the wattage increase with the r.p.m., but also with the evaporator temperature (and suction pressure) and refrigerating capacity.

#### WATTAGE USABLE IS LIMITED BY MOTOR SIZE

The amount of wattage that we can use depends upon how much the motor will stand before it gets so hot that it will be damaged. Normally, at full load, a 1/2-hp. motor draws about 275 to 300 watts, depending upon its efficiency.

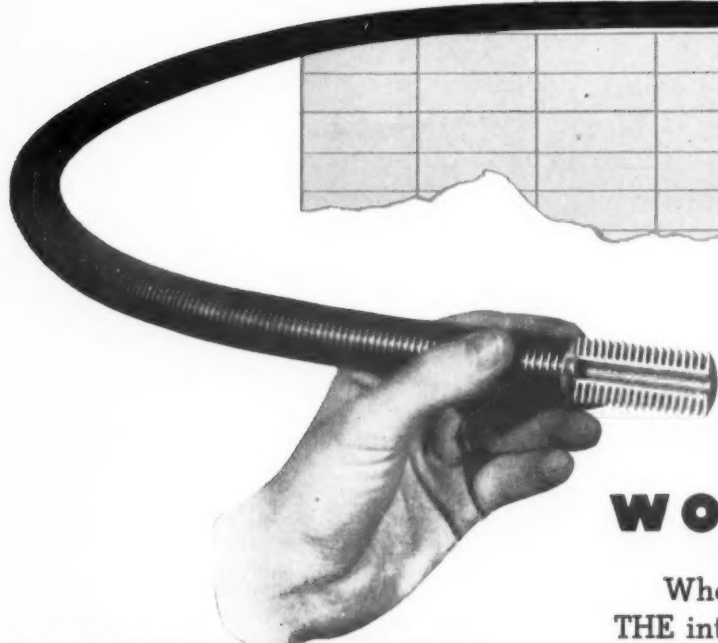
Motors used on refrigerating condensing units are heavy duty types that will stand heavy overloads for prolonged periods. The displacement of the compressor is adjusted (by selecting the r.p.m.) to normally operate the motor on enough overload to take full advantage of the power of the motor, but no more.

If we accept 365 watts as the maximum loading for a 1/2-hp. motor, then on a zero evaporator the compressor can be operated at 360 r.p.m. without exceeding the 365 watts.

(Concluded on next page)

## PEGGED PERFORMANCE

WITHSTANDS VIBRATION  
WITHSTANDS SUDDEN HEAT CHANGES  
WILL FABRICATE AS READILY AS PLAIN TUBE  
PRESENTS INCREASED SURFACE AREA  
NO ELECTROLYTIC ACTION IS POSSIBLE BETWEEN FINS AND TUBE  
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When you work with WOLVERINE TRUFIN—THE integral finned tube—you work with absolute factors. As many of our customers have reiterated, "You can peg performance with Trufin."

In calculating a given heat transfer problem, for example, you need not use intangibles since ALL Trufin surface is generally considered prime surface.

You can depend on Trufin giving high performance even where vibration or extreme heat changes are encountered.

Besides the advantage of increased surface area, this all-one-piece finned tube is capable of being bent, formed, or otherwise fabricated as easily as plain tube.

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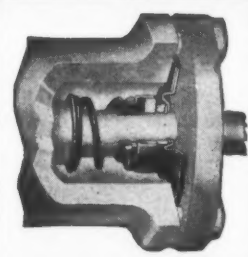
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## Compressor Capacity at Various Speeds, Temperatures

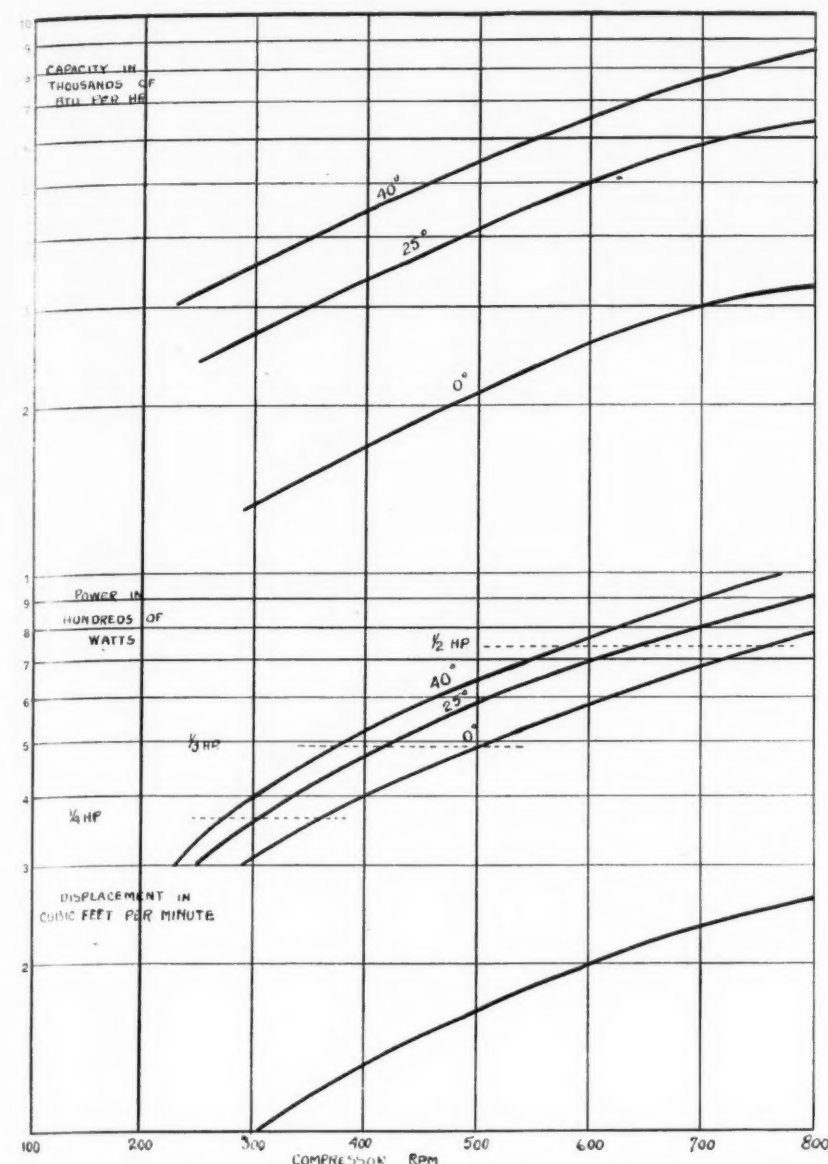


Fig. 1—These curves show refrigerating capacity, wattage consumption, and displacement of a typical small 2-cylinder, belt-driven, "Freon-12" compressor operating from 300 to 800 r.p.m. on 0°, 25°, and 40° evaporators.

## Mystery Story--

(Concluded from preceding page)

At this r.p.m. the displacement is 1.19 c.f.m. and the capacity is 1507 B.t.u. per hour. Thus, to take full advantage of the power built into this motor, we could operate this compressor at 360 r.p.m. on a 0° evaporator.

On a 25° evaporator, the vapor to the compressor is denser; consequently, the compressor, if operated at 360 r.p.m., would have greater capacity, which, from the 25° capacity curve, we find would be 3,100 B.t.u. per hour, twice as much as at the 0° evaporator. But it would also take more electricity, actually 425 watts—too much for the 1/4-hp. motor.

## OVER-MOTOR OR REDUCE DISPLACEMENT?

There are two things that could be done, put on a 1/2-hp. motor and keep the 360 r.p.m., or drop the compressor r.p.m. back to keep within the 365 watts. From our wattage curve for the 0° evaporator, we find that this would be 305 r.p.m.

Compressor volumetric efficiencies are greater at the higher suction pressure (higher evaporator temperatures) so that on the 25° evaporator

at 305 r.p.m. we get 2,730 B.t.u. per hour instead of the 1,507 B.t.u. per hour with the compressor running at 360 r.p.m. on the 0° evaporator, although the wattage is the same (365 watts) in both cases.

## EFFICIENCIES COMPARED BY B.T.U. PER WATT

Compressors are often compared on the basis of "B.t.u. per watt." In the case of the 1/4-hp. motor drawing 365 watts, running at 360 r.p.m. on the 0° evaporator and developing 1,507 B.t.u./hr., the B.t.u./watt is 4.1 (1507 ÷ 365). With this same compressor running at 305 r.p.m. on the 25° evaporator and developing 2,730 B.t.u./hr. but still drawing 365 watts, the B.t.u. per watt is 7.5 (2,730 ÷ 365).

So the same compressor can be a 1/4 hp. for an ice cream cabinet or frozen food cabinet or 1/4 hp. for a reach-in refrigerator or display case having a finned coil running on a defrosting cycle. The motor loading (maximum wattage to the motor) would be kept the same by varying the compressor r.p.m.

If we put a 1/2-hp. motor on this compressor and keep the r.p.m. the same, 360, the 425 watts required would be easily carried, for the 1/2-hp. motor can be loaded up to about 490 watts. In fact, we would have 65 watts to spare so we could run

the compressor at 420 r.p.m. on the 25° evaporator.

We may as well take advantage of the extra 65 watts and get 3,920 B.t.u. per hour instead of 2,730. We would gain a little in B.t.u. per watt also as we would get 8 instead of 7.5, due to the somewhat better efficiency of the 1/2-hp. over the 1/4-hp. motor.

## SEVERAL COMBINATIONS POSSIBLE

A study of these curves will show the various combinations of motors and compressor speeds that can be made for the three evaporator temperatures. Whether or not a manufacturer would use one compressor over all this range would depend on his cost of the compressor, his volume of production and sale of the various combinations, the B.t.u. per watt at each combination and, of course, all these would be governed by what sort of competition in price, capacity, and efficiency he had to oppose in these various combinations representing condensing unit sizes.

He might find his total costs less by using two, three, four, or even five different compressors to cover these combinations, or he might decide to do so for sales policy reasons.

## SOLUTION OF THE CASE OF THE OVERLOADED MOTOR

Now to get back to our service engineer and his problem. When the grocer told him that he bought the 1/2-hp. unit from a man who had recently bought it on a frozen food cabinet, the service engineer knew at once what the trouble was. He knew that the 1/2-hp. motor was loaded to about its limit at an evaporator temperature of 0°, and that when he put it on a display case hav-

ing a coil that operated on a defrosting cycle at about an average of 25°, he was heavily overloading the motor.

Referring again to the curves and assuming a maximum of 490 watts for the 1/2-hp. motor, the displacement would be 1.565 c.f.m. on a 0° evaporator and with our compressor that we have been using as an example the compressor r.p.m. would have been 500 and the capacity 2,100 B.t.u. per hour.

When he put it on the 25° evaporator he was trying to do a job that required 582 watts and would develop 4,150 B.t.u. per hour. This was not a 1/2-hp. load, but was more than a 1/2-hp. load. Moreover, it was more than he needed. The former 1/2-hp. unit couldn't have drawn more than about 490 watts and therefore did not have more than 1.38 c.f.m. and must have had a capacity of about 3,500 B.t.u. per hour. He knew then that all he needed to do was to slow down the compressor enough to get within the 490 watts. This would get a displacement of 1.38 c.f.m. and a capacity of 3,500 B.t.u. per hour.

Actually he did not carry all these figures in his head, but he went back to his shop and found a catalog of the condensing unit manufacturer that told him that their 1/2-hp. zero unit ran at 600 r.p.m., and their 1/2-hp. unit for a 25° evaporator, using the same compressor, ran at 500 r.p.m. So he brought out a 5-in. motor pulley and put it on in place of the 6-in. pulley, thus reducing the compressor speed from 600 to 500 r.p.m.

Since he used the same motor he had to make sure that the 5-in. pulley had the same bore as the 6-in. pulley, that is, 5/8 in. and it was. He was lucky too that the screw holes for the

fan were the same on the smaller pulley so that he did not have to redrill and tap the holes for securing the fan.

## A SHORTER BELT TOO

The other part that he brought back? A shorter belt. He could have got by with the old belt for the time being by moving the motor back as far as it would go, but there would have been no further adjustment left for later stretch of the belt.

In the early days, many of the condensing units had very slow compressor speeds, and the motor would carry the load even at the higher suction pressures, but they did not use even near the full power of the motor nor get the full capacity of the condensing unit at the lower suction pressures. Later they divided them into two types, one for ice cream cabinet temperatures of about 0° and another for ordinary commercial applications with about 25° evaporators.

When air conditioning started to become popular one practice was to over-motor the 25° units (put on the next large size motor) if the condensing unit was to be used on an air conditioning direct expansion coil which is ordinarily about 40°.

Finally, the manufacturers of the small "low-pressure condensing units" agreed on three standard ratings for three evaporator temperatures; 0°, 25°, and 45°, and their data are published for these three types of units. If best results are to be obtained, the units should be selected and used on the basis of those standards or data. If they are not taken into consideration, the results may be less capacity than can be realized from a unit of that horsepower.

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Totally enclosed switch mechanism

Dials accurately calibrated in pounds pressure

Settings easily and quickly made with screwdriver

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Controls for Refrigeration • Heating • Air Conditioning

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AIR CONDITIONING COMMERCIAL

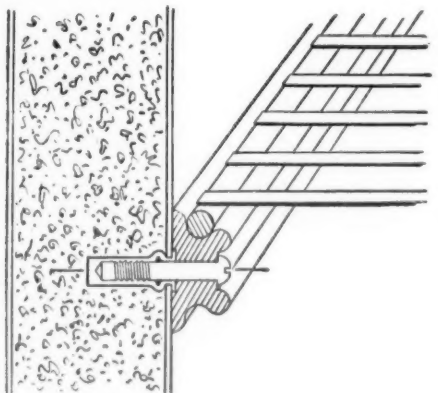
**For All Your Refrigeration and Air Conditioning Requirements**

Curtis Refrigerating Machine Division  
of Curtis Manufacturing Company R-528  
1912 Kienlen Ave. St. Louis 20, Mo.  
Established 1854

## FASTENING PROBLEM:

To hold refrigerator shelf, attach extruded plastic strip to interior wall. Wall must be air-tight, porcelainized metal must not be chipped.

*Here's how RIVNUTS solved it...*



8-32 thread blind-end aluminum Rivnuts were inserted through holes in porcelainized metal into insulating material. Operated from one side only, simple header tool upset them. The plastic strip was placed—screw attachments entered into holes and tightened in clean threaded Rivnuts. Head of Rivnut kept wall air-tight, did not chip metal sheet. Installation time and money were saved because wall section didn't require removal... maintenance was made easier. Perhaps this application might point the way to the solution of your fastening problem.

### FREE "RIVNUT DATA BOOK"

Illustrated Rivnut facts at your fingertips. How to install, uses, types, test data, tools. Write today for your free copy to The B. F. Goodrich Company, Dept. A-37, Akron, Ohio.



**B.F. Goodrich RIVNUTS**  
*It's a rivet—It's a nutplate*

## Servicing Truck Refrigeration Units

**Editor's Note:** A widely used method of achieving refrigeration in trucks is the system employing "hold-over" or eutectic plates. The problems encountered in designing, engineering, and servicing such installations differ in some respects from those involved in conventional systems. The serviceman who wants a thorough understanding of the growing field of truck refrigeration must familiarize himself with hold-over plate systems.

The next several articles in this series therefore will be devoted to truck plates. The accompanying instalment, and several of those to follow, were prepared by the NEWS in cooperation with Kold-Hold Mfg. Co. of Lansing, Mich.

### Instalment No. 27

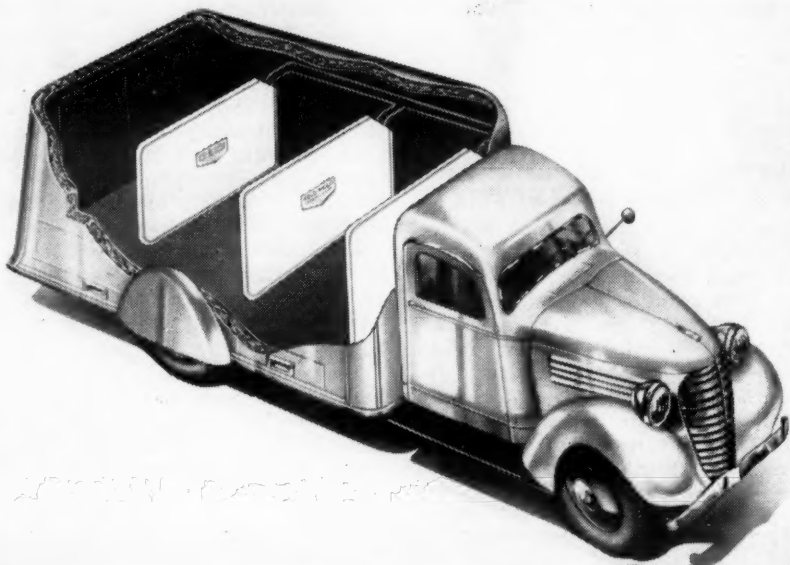


Fig. 1—A typical arrangement of hold-over or eutectic plates in a truck is shown in the cut-away photo above. Many other plate arrangements are employed and will be discussed in future instalments.

#### Truck Plate Systems

One of the most widely used systems of truck refrigeration is that employing eutectic or "hold-over" plates for the evaporator or low side. Essentially, a eutectic plate is a totally enclosed container filled with

a brine solution through which refrigerant is circulated to cool and freeze the brine. The melting of the frozen eutectic solution absorbs heat from the interior of the truck or trailer and thus provides refrigeration.

The basic principle of refrigeration involved in a eutectic plate system is the same as an ice system, but in actual practice there are numerous differences. One of the chief differences is that with a eutectic plate temperatures well below 32° F., the freezing point of water, are easily obtainable, permitting a truck to be held at 0° to 5° F., say, for the haulage of frozen foods or ice cream.

Another important difference between a eutectic system and an ice system is that much less space is required for a eutectic system. Space is of considerable importance in truck refrigeration, because the more space devoted to the refrigeration system will mean less space for payload. Eutectic plates have several other advantages.

#### How Plates Work

Generally, but not always, trucks fitted with eutectic plate refrigeration systems do not have the condensing unit mounted on the truck. At the central plant or garage for a fleet of trucks there is a large refrigeration system. Flexible hose lines from the liquid and suction lines of the plant refrigeration system are connected to the trucks during the night. During this period the hold-over plates in the trucks are "charged," that is, the evaporation of the liquid refrigerant in the coils of the plates freezes the eutectic.

By morning the plates are "re-charged." The trucks can then be disconnected from the plant refrigeration system, for they are ready to hold the truck at a predetermined temperature for the day's run.

Some trucks employing eutectic plates mount condensing units. Such installations are often driven by electric motors, because this arrangement does not require the connection of flexible refrigerant lines to the truck plate system for charging. An extension cord from the condensing unit motor is merely plugged into an electrical outlet at the plant.

Other truck plate installations have gasoline motor-driven condensing units, and there are also truck plate installations where the condensing units are driven by a belt off the rear wheel of the trailer, or by a "power take off" driven by the truck engine.

A typical installation of hold-over plates is shown in Fig. 1.

#### Chief Engineer



ROBERT T. MOORE

### Moore Takes Key Research Post at Superior Valve

PITTSBURGH—Robert T. Moore, holder of the U. S. Navy's highest civilian award for distinguished service to the Navy in the field of industrial gases, has been appointed chief engineer of Superior Valve & Fittings Co. here, J. S. Forbes, president, has announced.

Mr. Moore is said to be one of very few civilians to hold such an award. His citation says:

"He organized the development of tanks for the transportation by air of liquid oxygen and also established the self-contained carbon dioxide generating units which permitted the filling of high pressure vessels at advanced bases to be used in combating fires on fighting ships—and development of shipboard oxygen generating plants—assisted in the establishment of a Naval Training School for the study of compressed gases—many outstanding achievements in the highly important field of industrial gases."

Mr. Moore was employed in the heat transfer and industrial gases section of the Bureau of Ships as a senior mechanical engineer and industrial gas specialist.

He was educated at the University of Virginia and acquired practical and business experience at Portsmouth and Norfolk, Va. While at Norfolk he was graduated from the Navy Trade and Technical School. He joined the Navy in Washington, D. C. as a technical assistant to Capt. T. J. Day.

### Williams Promoted to Eastern Sales Head of M-H Controls Division

MINNEAPOLIS—H. E. Williams has been promoted to eastern regional sales manager of the heating controls division of the Minneapolis-Honeywell Regulator Co., Arthur H. Lockrae, vice president, has announced.

Mr. Williams, who worked for the company's aeronautical division during the war, spent much of his time in England in charge of technical training of Air Force personnel in the use and maintenance of electronic automatic pilots and turbo supercharger regulators. He was transferred to the eastern region last year and assumed the duties of H. E. Chapler who is now sales manager of the oil burner controls division. He will make his headquarters at the company's New York City office, the announcement said.

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**MANHATTAN V-BELTS**  
WHIPCORD FHP

They grip without slip. They flex without overheating. They are uniformly constructed for longer life. They deliver the power that makes your equipment DEPENDABLE.

**RAYBESTOS-MANHATTAN, Inc.**  
"Keep Ahead with Manhattan"  
MANHATTAN RUBBER DIVISION, PASSAIC, N.J.

**"TESTED BY USE"**

*...places Ranco*  
**Refrigeration Controls out in front**

More refrigeration experts KNOW Ranco Controls than any other—because more refrigeration engineers, jobbers and service men have bought and sold more Rancos than any other control.

Ranco Controls are precision built by men of skill and experience.

When you buy Ranco you get refrigeration controls that have been "tested-by-use" by the millions in commercial plants and households everywhere.

See YOUR Jobber Today

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**Ranco Inc. COLUMBUS 1, OHIO**

*Coming Soon...*  
**A NEW TYPE OF HEAT EXCHANGER**  
**IT'S UNIQUE...IT'S REVOLUTIONARY...IT'S Superior**  
Watch for complete details

**Superior Valve and Fittings Co.**  
1509 WEST LIBERTY AVE. PITTSBURGH 26, PENNA.  
OFFICES IN PRINCIPAL CITIES STOCKS CHICAGO (6) LOS ANGELES (15) JOBBERS EVERYWHERE

## Information Please

### Questions and Answers on Problems Faced by Servicemen

**Editor's Note:** The following questions were asked by servicemen during the "Information Please" session conducted by Harry Parish at the eighth annual conference of the Interprovincial Association, Refrigeration Service Engineers Society in Montreal, Que., recently. The board of experts who aided Mr. Parish in supplying the answers included G. E. Graff of Ranco, Inc.; R. L. Williams of Kinetic Chemicals, Inc.; N. C. Cooper of du Pont's Electrochemicals Dept.; and Howard Pratt of Servel Canada, Ltd.

**Q. What do you think of adding SO<sub>2</sub> to a methyl chloride system to prevent freeze-ups?**

**A.** This is not a very good idea. Sometimes, however, a very small amount of SO<sub>2</sub> is added to a methyl job to serve as a warning agent in the event of a leak.

**Q. Does the ammonia in an absorption system ever lose its strength or contaminate parts of the system?**

**A.** No. Some absorption units have been operating in the field for 20 years with their original charge.

#### Effect of 'Freon' on Gaskets, Babbitt Bearings

**Q. Does "Freon" have any corrosive effect on lead gaskets or babbitt bearings?**

**A.** No. "Freon" itself will not cause this corrosion. If there is any corrosion of these materials it will be due to the presence of (1) moisture, (2) non-condensable gases, or (3) a breakdown of the lubricant.

**Q. Can the superheat setting of a non-adjustable expansion valve be changed by moving the feeler bulb along the suction line.**

**A.** The effect of the expansion valve can be changed by moving the bulb. The bulb is usually placed on the suction line at the end of the evaporator to obtain full refrigerating effect from the coil.

**Q. Catalogs of expansion valve manufacturers list "pressure differences" for various tonnage ratings on these valves. What does "pressure difference" mean?**

**A.** "Pressure difference" refers to the difference in pressure between the high and low sides of the system.

#### Common Causes of Service Calls on Absorption Units

**Q. When a Servel absorption unit stops freezing what is the usual trouble and can any servicing be done in the field?**

**A.** Service calls on an absorption unit are usually due to three causes: (1) the source of heat has been cut off; (2) the unit may be off level and thus trap ammonia in the evaporator, or (3) there may not be adequate air circulation around the unit. These three most common complaints can obviously be handled in the field. If something else is at fault, the unit will generally have to be sent to the factory for replacement.

**Q. Should an automatic expansion**

**valve or a thermostatic expansion valve be used on a home freezer which also has a low-side cut-out?**

**A.** If the freezer has plates, use a thermostatic valve to flood the plates. An automatic expansion valve should probably be used on a freezer section equipped with liners.

**Q. Erratic operation of one installation has been very troublesome. Sometimes the coil is flooded, sometimes it's starved, and then sometimes the system operates normally. Why?**

**A.** Very likely moisture has frozen on the outside of the valve bellows. This condition would cause the valve to "hunt."

#### What Controls Are Needed On a Multiple Hookup?

**Q. What type of controls should be used on a multiple hookup consisting of a butcher box and a counter?**

**A.** The butcher box will probably have the heaviest load and therefore should have the main control. This can be either a pressure or temperature control, while the counter will be operated by a temperature control and a solenoid valve. If both loads are the same, use two thermostats and two solenoids.

**Q. What is the lowest temperature ever reached by an absorption system?**

**A.** It's possible to get down to -10° F., although lower temperatures may have been attained.

**Q. Is a liquid receiver needed on a capillary tube refrigeration system?**

**A.** The capillary tube system is so balanced that it doesn't need a receiver. This setup is generally used on hermetics and is expected to balance off the pressures after the unit shuts down. It is important to remember that the size of the refrigerant charge is small and critical.

#### Remote Installation of Condenser Is Practicable

**Q. I have to install an air-cooled condensing unit in a small space. There is no water available. Can I install a blower-condenser remote from the compressor? If so, how far away?**

**A.** This has been done. In one installation the air-cooled condenser was 60 ft. from the compressor. It is necessary, of course, to increase the size of the lines between the compressor and the condenser to minimize pressure drop. Obviously such an installation is more expensive.

## Contractors Adopt Code of Ethics & Back Program With Phone Book Advertising

### Detroit Group Forms Greivance Committee

DETROIT—A nine-point code of ethics, designed to promote higher standards and fair dealings in the refrigeration contracting business, was adopted unanimously by the Refrigeration Contractors Association of Detroit at its March meeting.

At the same time, the association announced that it is placing a quarter-page advertisement in the 1947 issue of the local telephone directory directing the public's attention to the association and to the standards to which it is pledged.

In conjunction with the adoption of the code, the association approved the formation of a grievance committee to hear cases of alleged violations of the code and to recommend action on the cases to the board of directors.

#### 9 POINTS IN CODE

The code, as approved by the membership, reads:

"(a) All service shall be performed in a satisfactory workmanlike manner. There shall be no misrepresentation to the customer of materials used or sold, or of services performed.

"(b) Used merchandise shall not be sold without a written statement on the sales slip expressly indicating the material to be used.

"(c) The terms of any manufacturer's warranty shall always be observed by members of the association.

"(d) Only qualified mechanics shall be used on every job.

"(e) Fair dealings with the public are insisted upon.

"(f) Every effort will be made to maintain and protect the health of the community.

"(g) Cooperation with the Department of Building and Safety Engineering is pledged.

"(h) Derogatory statements regarding services or merchandise supplied by other members shall be considered unethical.

"(i) Salesmen or agents shall not be permitted to share commissions with customers."

#### ENFORCEMENT GROUP

The association also voted that: "For the purposes of enforcing the code of ethics . . . a grievance committee is hereby established to consist of a chairman chosen from the board of directors and two members chosen from the membership of the association annually by the president.

"The executive secretary shall be an ex officio member and serve as secretary to this committee.

"The grievance committee shall be empowered to adopt rules of procedure to supplement those set out in this resolution.

"In cases of violation of the code of ethics . . . charges may be preferred by the aggrieved person or any member or members of the association knowing thereof.

"These charges must be presented in writing to the secretary of the association who will immediately forward same to the chairman of the grievance committee.

"The grievance committee shall then set a date for a hearing not less than five or more than 15 days from the time of notification by the secretary and notify the alleged violator of the same so that he may appear and be given an opportunity to be heard.

"Based on the testimony given at the hearing the grievance committee by majority vote shall make a recommendation of action to be taken to the board of directors.

#### DIRECTORS RULE FINALLY

"The board of directors shall take final action on the recommendation of the grievance committee at its first regular meeting after receipt of recommendation.

"The alleged offender shall be given an opportunity to be heard by the board of directors in case of an unfavorable recommendation by the grievance committee.

"The board of directors shall then determine whether the alleged offender should be expelled from the Association or placed on a probationary status for a period wherein he may redeem himself and be re-

### Refrigeration Contractors Ass'n of Detroit

Incorporated 1941  
Affiliated with  
National Association of Refrigeration Contractors

Stands For  
HIGHER STANDARDS  
FAIR DEALINGS  
FAIR PRICES  
PROTECTION OF HEALTH  
QUALIFIED MECHANICS

CO-OPERATION WITH DEPARTMENT OF BUILDING & SAFETY ENGINEERING

"There is a Member in Your Neighborhood"

Occupying a quarter page in the refrigeration section of Detroit's new classified telephone directory, the advertisement is being published by the Detroit contractors' association. Cuts of the local and national association seals have been made available to members for their individual phone book listings to tie in with the group's program.

turned to good standing."

President Jim Perry of Perry Refrigeration Co., named Jim Terry of Dresco Refrigeration Co., Inc. chairman of the grievance committee. He also appointed Victor Fabian of Square Deal Refrigeration Sales & Service, and Joe Clark of Clark Refrigeration Co. as members.

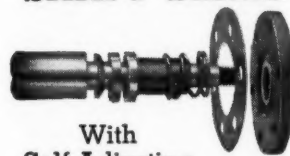
The advertisement which will ap-

pear in the yellow pages of the new Detroit telephone directory carries the seal of the association and that of the National Association of Refrigeration Contractors.

Cuts of the seals used in the advertisement are being made available to members of the association for use in their own advertisements in the directory.

### Specify CHICAGO

#### SHAFT SEALS VALVE PLATES



With Self-Adjusting Sleeve Lock.



Only Chicago valve plates have replaceable seats.

**CHICAGO SEAL CO.**

20 NORTH WACKER DRIVE • CHICAGO 6, ILL.

### Both necessary to REFRIGERATION MAINTENANCE

#### THAWZONE...

THE MOVING DEHYDRANT...CIRCULATES AND SEARCHES OUT MOISTURE, DESTROYING IT CHEMICALLY. FOR NEW AND RECONDITIONED UNITS, AS WELL AS OLD.

#### TRACE...

A HIGHLY EFFECTIVE REFRIGERANT LEAK DETECTOR. ITS STABLE VIVID RED COLOR REVEALS LEAKS INSTANTLY IN OLD OR NEW SYSTEMS.

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The PIONEER FLUID DEHYDRANT

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REFRIGERANT LEAK DETECTOR

## DISTRIBUTORS WANTED!

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#### Distributing:

### The Sensational New MULTIPLEX BAR DISPENSER

Designed and Engineered for Tavern and Bar Service

- ✓ IT ELIMINATES BOTTLES
- ✓ IT MANUFACTURES FRESH carbonated soft drinks (seltzer, cola, lemon, ginger ale, etc.) as easily as drawing a glass of beer
- ✓ IT SPEEDS BAR SERVICE 100%. Increases profits tremendously



Write us for Free Bulletin

### MULTIPLEX FAUCET COMPANY

Manufacturers of Soft Drink Dispensers for over 40 years.

4319-25 Duncan Ave. (Division 12) St. Louis, Mo.

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The Bulletin 709 solenoid starter is a favorite for air conditioning and refrigeration because it is good for millions of operations and does its job day in and day out without attention. The double break, silver alloy contacts never require maintenance. There is only one moving part—no trouble-making pins, pivots, hinges, or flexible conductors. Write for information.

ALLEN-BRADLEY COMPANY  
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BULLETIN 709

Size 2, Bulletin 709 across-the-line solenoid starter with cover removed.

**ALLEN-BRADLEY**  
QUALITY  
**SOLENOID MOTOR CONTROL**



## AUTOMATIC PACKAGED REFRIGERATION SYSTEM

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Simple to Convert to Electric Motor Drive  
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- ★ SHARP FREEZING STORAGE
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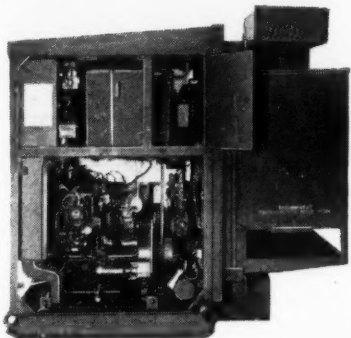
A Completely Assembled System designed to be installed in space to be refrigerated. Export packed with spare parts and maintenance and operation instructions.

\$725.00 F. O. B. Phila.

Call Pennypacker 5-9913

REFRIGERATION ENGINEERING CORP.

1518 Walnut St., Philadelphia 2, Pa. Cable Address "Reco Phila."



## Air Conditioning &amp; Commercial Refrigeration Shipments for the Third Quarter of 1946

This compilation by the Bureau of the Census is based on reports submitted by 72 manufacturers. Of the 72 companies included, estimates were made for a few firms that were late.

The shipment statistics included in the report apply to equipment actually billed and shipped. These figures are equivalent to completed sales. Complete units delivered on consignment are not included.

The tables in this report present information on manufacturers' shipments of components and accessories for commercial refrigeration equipment (including condensing units), and air conditioning equipment.

Table 1—Air Conditioning Equipment and Components and Accessories for Air Conditioning and Commercial Refrigeration Equipment: Summary of Shipments by Major Class of Product, Second and Third Quarters 1946

Product	Third Quarter 1946 Shipments of Complete Units		Domestic†		Export‡	
	No.	Value (dollars)	No.	Value (dollars)	No.	Value (dollars)
<b>Section I—Components and Accessories</b>						
Total	31,232,155	29,615,831	1,616,324			
Condensing units	183,354	14,379,003	176,231	13,453,306	7,123	925,697
Ammonia refrigerants	260	255,584	231	230,246	29	25,338
Refrigerants except ammonia	183,094	14,123,419	176,000	13,223,060	7,094	900,359
Air cooled	172,855	10,742,050	166,664	10,121,535	6,191	620,515
Water cooled	10,239	3,381,369	9,336	3,101,525	903	279,844
Compressors and compressor units	32,207	4,023,397	30,401	3,754,472	1,808	268,925
Ammonia refrigerants	857	1,637,586	756	1,477,182	101	160,404
Refrigerants except ammonia	31,350	2,385,811	29,645	2,277,290	1,705	108,521
Centrifugal refrigeration machines	89	1,927,319	84	1,851,891	5	75,428
Heat exchanger equipment	1,174	1,301,117	1,106	1,228,387	68	72,730
Evaporative condensers	47,579	4,670,426	46,566	4,548,427	1,013	123,999
Air coolers	1,963	1,022,304	1,908	1,003,125	55	19,179
Refrigeration	45,616	3,648,122	44,658	3,543,302	958	104,820
Other heat exchanger equipment§		4,930,893		4,781,348		149,545

<b>Section II—Self-Contained Air Conditioning Units and Absorption Systems</b>						
Self-contained air conditioning units	15,803	5,413,485	14,567	5,123,016	1,236	290,469
Store type	4,237	3,269,681	4,116	3,170,471	121	99,210
Room type	11,566	2,143,804	10,451	1,952,545	1,115	191,259
Miscellaneous air conditioning and refrigeration equipment, including absorption systems		1,290,766		1,263,831		26,935

<b>Second Quarter 1946 Shipments of Complete Units</b>						
<b>Section I—Components and Accessories</b>						
Total	27,309,240	25,746,332	1,562,946			
Condensing units	166,454	12,352,884	158,643	11,583,185	7,811	769,699
Ammonia refrigerants	347	361,175	321	331,201	26	29,974
Refrigerants except ammonia	166,107	11,991,709	158,322	11,251,984	7,785	739,725
Air cooled	157,159	9,110,666	149,823	8,474,843	7,336	635,522
Water cooled	8,948	2,881,043	8,499	2,777,141	449	108,902
Compressors and compressor units	48,182	3,448,211	42,021	3,098,767	6,161	349,444
Ammonia refrigerants	715	1,202,319	602	1,017,701	113	184,618
Refrigerants except ammonia	47,467	2,245,892	41,419	2,081,066	6,048	164,826
Centrifugal refrigeration machines	78	1,582,604	71	1,467,040	7	115,564
Heat exchanger equipment		9,925,541		9,597,340		328,201
Evaporative condensers	1,210	1,231,184	1,091	1,105,351	119	125,833
Unit coolers	48,218	4,188,031	47,839	4,093,211	379	94,820
Air conditioning	1,526	811,784	1,488	796,223	38	15,561
Refrigeration	46,692	3,376,247	46,351	3,296,988	341	79,259
Other heat exchanger equipment§		4,506,326		4,398,778		107,545

<b>Section II—Self-Contained Air Conditioning Units and Absorption Systems</b>						
Self-contained air conditioning units	9,925	3,472,393	4,722	3,345,731	203	126,662
Store type						
Room type						
Miscellaneous air conditioning and refrigeration equipment, including absorption systems		916,151		911,264		4,857

Note: The symbol "\*" denotes not applicable. †Revised. ‡Continental United States. §Includes Canada, Mexico, and United States territories. †Includes condensers and liquid coolers, shell and tube and shell and coil types, as well as fin coils (heating and cooling) and plate type evaporators. ‡Data on shipments of room type air conditioning units revised as follows for first and second quarters combined: Total—8,759 units, \$1,606,073; Domestic—8,346 units, \$1,500,508; Export—413 units, \$96,565.

Table 3—Air Conditioning Equipment and Components and Accessories for Air Conditioning and Commercial Refrigeration Equipment: Shipments by Type of Product, Third Quarter 1946

Product	Production of Units Incorporated in Unitary Equipment Made in Same Plant	Shipments of Complete Units						No. of Plants	
		Total No.	Domestic†		Export‡		Re-value port-ing		
			Value (dollars)	No.	Value (dollars)	No.			Value (dollars)
Section I—Components and Accessories									
Total .....	*		31,232,155		29,615,831		1,616,324	72	
Condensing Units, Total .....	*	183,354	14,379,003	176,231	13,453,306	7,123	925,697	34	
Refrigerants, except ammonia, total ..		183,094	14,123,419	176,000	13,223,060	7,094	900,359	30	
Air cooled, total ..		172,855	10,742,050	166,664	10,121,535	6,191	620,515	28	
1½ hp. and under ..		12,791	46,759	1,290,770	45,873	1,246,069	886	44,701	14
¾ hp. ....		21,661	35,722	1,798,409	34,038	1,692,984	1,684	105,425	26
1 hp. ....		4,011	49,930	2,878,768	49,004	2,799,149	926	79,619	27
1½ hp. ....		2,169	22,165	1,905,736	20,725	1,759,965	1,440	145,771	27
2 hp. ....			9,156	1,012,426	8,678	948,854	478	63,572	23
3 hp. ....			3,595	541,919	3,299	497,333	296	44,586	23
1½ hp. ....	1,146		2,089	398,427	1,986	380,098	103	18,329	23
2 hp. ....			2,145	463,046	1,934	414,848	211	48,198	14
3 and 5 hp. §....			1,294	452,549	1,127	382,235	167	70,314	14
Water cooled, total ..	1,446	10,239	3,381,369	9,336	3,101,525	903	279,844	11	
1½ hp. and under §			237	19,677	218	18,007	19	1,670	11
¾ hp. ....			1,233	147,021	1,035	122,840	198	24,151	16
1 hp. ....			872	116,026	824	109,081	48	6,945	16
1½ hp. ....			1,299	211,586	1,236	201,965	63	6,563	20
2 hp. ....			1,068	227,558	1,030	220,995	38	6,563	20
3 hp. ....			1,161	285,211	1,065	257,833	96	27,378	24
4 hp. ....			1,714	532,916	1,616	505,342	98	27,574	24
5 hp. ....	1,446	1,517	658,194	1,235	543,690	282	114,504	13	
7½ hp. ....			474	300,223	451	283,126	23	17,097	13
10 hp. ....			273	218,696	249	194,696	24	24,000	13
15 hp. ....			128	118,662	122	112,263	6	6,399	13
20 hp. ....			54	70,538	50	64,908	4	5,630	13
25 hp. ....			50	61,444	50	61,444	1	1,376	13
30 hp. ....			23	34,119	22	32,743	1	1,918	13
40 hp. ....			49	97,375	48	95,457	1	4,988	13
50 hp. and over §.			87	282,123	85	277,135	2		13
Ammonia refrigerants									
Reciprocating water cooled, total .....	*	360	255,584	231	230,246	29	25,338		
3 hp. and under §.	*	22	9,768	22	9,768	1			
5 hp. ....	*	80	45,096	69	39,978	11	5,118		
7½ hp. ....	*	41	34,286	34	28,924	7	3,503		
10 hp. ....	*	58	50,973	55	47,470	3	6,205		
15 hp. ....	*	41	55,985	36	49,780	5	5,150		
20 hp. and over §.	*	18	59,476	15	54,326	3			

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 SELF-CONTAINED  
 AUTOMATIC  
 HIGH WATER LEVEL  
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**Table 3 (Cont.)—Air Conditioning Equipment and Components  
And Accessories for Air Conditioning and Commercial  
Refrigeration Equipment: Shipments by Type of  
Product, Third Quarter 1946**

Product	Shipments of Complete Units					No. of Plants Report- ing	
	Total	Value	Domestic <sup>†</sup>	Value	Export <sup>‡</sup>		
	No.	(dollars)	No.	(dollars)	No. (dollars)		
Section I—Components and Accessories							
Compressors and com- pressor units, total..	32,207	4,023,397	30,401	3,754,472	1,806	268,925	24
Refrigerants except ammonia, total.....	31,350	2,385,811	29,645	2,277,290	1,705	108,521	21
1/2 hp. and under\$....	22,127	557,339	20,974	555,412	1,153	21,927	11
3/4 hp. ....	2,385	120,929	2,275	116,787	111	4,142	10
1 hp. ....	1,102	66,201	951	59,215	151	6,986	7
1 1/2 hp. ....	157	21,083	117	18,935	40	2,148	5
2 hp. ....	2,471	151,594	2,346	144,672	125	6,922	12
3 hp. ....	1,251	83,316	1,208	77,300	43	6,016	11
5 hp. ....	763	164,329	743	161,340	20	2,989	11
7 1/2 hp. ....	169	82,909	159	78,512	10	4,397	7
10 hp. ....	229	128,286	226	126,891	3	1,395	10
15 hp. ....	153	109,424	141	102,556	12	6,868	11
20 hp. ....	106	97,509	102	94,612	4	2,897	9
25 hp. ....	77	90,623	71	86,235	6	4,388	8
30 hp. ....	42	54,517	41	53,688	1	829	4
40 hp. ....	127	207,501	122	200,772	5	6,729	5
50 hp. ....	98	174,911	79	148,160	19	26,751	5
60 hp. ....	52	101,655	51	100,518	1	1,137	4
75 hp. and over\$....	41	173,685	40	171,685	1	2,000	5
Ammonia refrigerants, total.....	857	1,637,586	756	1,477,182	101	160,404	10
5 hp. and under\$....	43	15,110	36	11,649	7	3,461	5
7 1/2 hp. ....	134	67,216	123	62,435	11	4,781	4
10 hp. ....	102	55,992	101	55,438	1	554	6
15 hp. ....	87	70,735	78	64,505	9	6,230	7
20 hp. ....	89	80,785	86	78,369	3	2,416	7
25 hp. ....	65	84,564	52	69,639	13	14,925	6
30 hp. ....	75	120,795	58	97,369	17	23,426	6
40 hp. ....	46	88,355	39	73,379	7	14,976	4
50 hp. ....	55	124,177	44	103,097	11	21,080	4
60 hp. ....	27	76,369	22	63,551	5	12,818	4
75 hp. ....	53	171,491	43	149,554	10	21,937	5
100 hp. and over\$....	81	681,997	74	648,197	7	33,800	5
Centrifugal refrigeration machines, (water and brine chilling) total\$	89	1,927,319	84	1,851,891	5	75,428	4
Heat exchanger equipment, total ....	*	10,902,436	*	10,556,162	*	346,274	47
Evaporative condensers, total.....	1,174	1,301,117	1,106	1,228,387	68	72,730	22
5 tons and under\$....	134	41,047	123	38,242	11	2,805	9
5.1 to 7.5 tons.....	86	33,726	77	29,928	9	3,798	12
7.6 to 10 tons.....	110	59,791	105	56,992	5	2,799	12
10.1 to 15 tons.....	110	69,249	107	66,852	3	2,397	16
15.1 to 20 tons.....	79	66,588	77	65,148	2	1,440	12
20.1 to 30 tons.....	211	208,433	204	200,274	7	8,159	17
30.1 to 50 tons.....	298	412,101	279	391,096	19	21,005	17
Over 50 tons\$.....	146	410,182	134	379,855	12	30,327	17
Unit coolers, total.....	47,579	4,670,426	46,566	4,546,427	1,013	123,999	35
Air conditioning remote type, total..	1,963	1,022,304	1,908	1,003,125	55	19,179	18
3 tons and under\$....	205	29,797	205	29,797	†	†	5
3.1 to 5 tons.....	488	147,125	465	141,411	23	5,714	14
5.1 to 10 tons.....	393	150,826	380	147,547	13	3,279	12
10.1 to 25 tons.....	652	429,203	637	421,962	15	7,241	17
Over 25 tons\$.....	225	265,353	221	262,408	4	2,945	7
Refrigeration, total ..	45,616	3,648,122	44,658	3,543,302	958	104,820	35
Ceiling and wall mounted, total ....	44,547	2,642,842	43,624	2,575,866	923	66,976	28
1,000 B.t.u./hr. and under.....	367	9,973	362	9,624	5	349	5
1,001-2,000 B.t.u./hr.	11,473	389,868	11,392	386,870	81	2,998	14
2,001-4,000 B.t.u./hr.	9,831	364,723	9,728	360,751	103	3,972	19
4,001-6,000 B.t.u./hr.	5,463	303,256	5,323	293,496	140	9,760	21
6,001-8,000 B.t.u./hr.	4,327	292,350	4,125	276,635	202	15,715	19
8,001-12,000 B.t.u./hr. ....	5,269	364,035	5,172	358,278	97	5,757	21
12,001-18,000 B.t.u./hr. ....	4,959	443,867	4,706	419,463	253	24,404	21
Over 18,000 B.t.u./hr.	2,858	474,770	2,816	470,749	42	4,021	13
Floor mounted dry type, total.....	731	555,452	713	533,681	18	21,771	18
5 tons and under\$..	312	155,549	308	153,404	4	2,145	12
5.1 to 7.5 tons.....	198	151,974	190	136,828	8	15,146	11
7.6 to 10 tons.....	99	98,667	89	98,667	†	†	10
10.1 to 15 tons.....	87	107,433	91	102,953	6	4,480	9
Over 15 tons.....	35	41,829	35	41,829	†	†	4
Floor mounted spray type, total.....	338	449,828	321	433,755	17	16,073	10
5 tons and under\$.	30	25,862	22	18,359	8	7,503	4
5.1 to 7.5 tons.....	126	157,960	118	150,625	8	7,335	7
7.6 to 10 tons.....	42	43,087	42	43,087	†	†	6
10.1 to 15 tons.....	77	109,029	76	107,794	1	1,235	6
Over 15 tons.....	63	113,890	63	113,890	†	†	6
Other heat exchanger equipment, total ....	*	4,930,893	*	4,781,348	*	149,545	32
Condensers, shell and tube and shell.....	*	885,867	*	853,999	*	31,568	16
Liquid coolers, shell and tube.....	*	161,780	*	159,544	*	2,236	9
Liquid coolers, shell and coil.....	*	29,449	*	28,299	*	1,150	5
Fin coils—heating other than forced air units.....	*	718,287	*	714,257	*	4,030	10
Fin coils—cooling other than forced air units.....	*	1,598,197	*	1,537,879	*	60,318	20
Evaporators, plate type.....	*	1,537,313	*	1,487,370	*	49,943	6

#### Section II—Self-Contained Air Conditioning Units and Absorption Systems

Self-contained air condi- tioning units, total..	15,803	5,413,485	14,567	5,123,016	1,236
Store type, total....	4,237	3,269,681	4,116	3,170,471	121
2 and 3 tons.....	1,825	944,025	1,763	906,256	62
5 tons.....	1,866	1,417,454	1,819	1,377,378	47
7.5 tons.....	264	280,564	254	269,509	10
10 tons.....	147	269,845	147	269,845	†
15 tons and over\$...	135	357,793	133	347,483	2
Room type.....	11,586	2,143,804	10,451	1,952,545	1,115
Miscellaneous air condi- tioning and refrigeration equipment, including absorption systems...	*	1,290,766	*	1,263,831	*

Note: The symbol "†" denotes zero. The symbol "\*" denotes not applicable.  
†Continental United States. ‡Includes Canada, Mexico, and United States territories.  
‡Combined to avoid disclosure of operations of individual companies.

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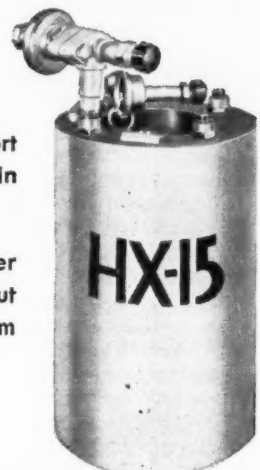
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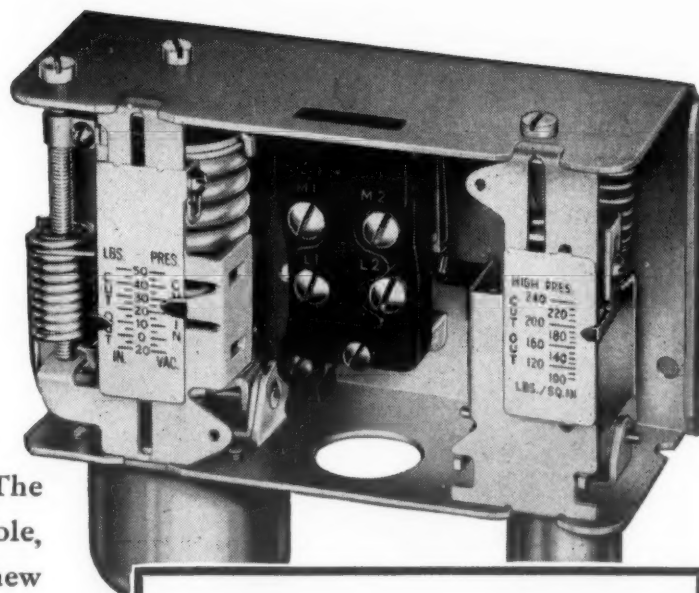
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# PENN



## AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

## New Market Opened For Gas Appliances

WASHINGTON, D. C.—A new market for U. S. manufacturers and suppliers of domestic gas ranges, refrigeration equipment, and water heaters has been opened up in Colombia with the establishment of a company to sell gas for home consumption, the Office of International Trade, Department of Commerce, reports.

The firm, Compania Colombiana de Gas, S. A., is offering to distribute the appliances in order to develop the market, according to OIT. It plans to deliver the gas in 100-pound cylinders. "Annual demand for stoves and refrigerators is tentatively estimated at 5,000 units each, and for water heaters, 2,000," the report said. "In addition, accessories will be needed—pipe fittings, pressure regulators, valves, and copper tubing, as well as cylinders for delivery and storage of the gas."

Initiation of regular gas delivery in Bogota is tentatively scheduled for June and will be later extended to Barranquilla and Bucaramanga. The company hopes to serve the whole country in time.

## Air Conditioned Sleeping Cars Set for Mexico-Guatemala Run

WASHINGTON, D. C.—Provision of air conditioned sleeping cars between Mexico and the Guatemalan border is included in a 32-point program for 1947 announced by the National Railways of Mexico, according to the Office of International Trade, Department of Commerce.

## Analyze Refrigerator Markets In 9 Latin American Countries

WASHINGTON, D. C.—Markets for electric refrigerators in nine Latin American countries are analyzed in releases issued by the U. S. Department of Commerce under its Industrial Reference Service.

Countries covered by Part 4, Volume 4, of the Industrial Reference Service include the Dominican Republic, Cuba, Brazil, Costa Rica, Nicaragua, Mexico, Venezuela, Argentina, and Guatemala.

## Radios, Refrigerators Head Electrical Items Asked for By Latins

NEW YORK CITY—More than 11% of all requests from Latin America for U. S.-manufactured products are for electrical equipment, with radios and refrigerators heading this list, according to a study of 2,725 trade inquiries.

The study was completed recently by the Council for Inter-American Cooperation. It showed there is some demand for fractional horsepower motors and dairy equipment.

Arnold Tschudy, Council director, said results of the study emphasize Latin America's tremendous need, as well as ability to buy American products. He urged that despite current shortages, "American manufacturers should now set aside a definite quota for export to Latin America, in order to maintain a foothold in that market in the face of growing European competition."

## Appliance Market In Mexico Said Tripled

CHICAGO—Mexico's future appliance market is considered by Alfredo Guijarro, who heads Distribuidora Norge, S. A., in Mexico City, to be two and a half to three times as great as in any prewar year.

Mr. Guijarro made this observation during visits to the Detroit and Chicago offices of Borg-Warner Corp.

While in Detroit, he conferred with J. W. DeLind, president of Borg-Warner International, on future markets in Mexico for Norge appliances.

He said Mexico's standard of living is going up rapidly and predicted the country will continue a progressive and prosperous era under its new government. The rising consumer's market seems certain to be sustained. The war helped Mexico industrially, he said. Many new plants were erected during that period.

Indicating the extent of Mexico's economic improvement, Mr. Guijarro declared that railroads now are carrying from four to five times the amount of freight traffic in 1941. New car registrations this year will total 30,000, approximately double the yearly prewar number, he said.

He noted these other encouraging signs: a big increase in demand for rubber, steel, and drugs manufactured in Mexico and the U. S.; enormous expansion in highway building; and increasing export of cattle to the U. S.

In addition to heading Distribuidora Norge, Mr. Guijarro also heads Refacciones, S. A., distributor for Borg-Warner International auto service products.



## Mexican Scribe Gets the 'Jahco Story'



Both Edward R. Legg, executive vice president of Jahco (left), and Jose Infante (right), writer for the Mexican magazine "ASI," appear very happy over the results of their interview, intended to lay the foundation for future Jahco relations south of the border. The third party present is a 1/2 hp. Jahco open type refrigeration condensing unit.

## DeLind Finds Demand for U.S. Products In Unoccupied Europe 'At Greatest Peak'

CHICAGO—The outlook for sales of American-manufactured products in the presently unoccupied countries of Europe undoubtedly stands at the greatest peak in history.

This was the observation of J. W. DeLind, Jr., president of Borg-Warner International Corp., upon his return from a three-month survey of markets for Borg-Warner products in the Scandinavian countries, Holland, Belgium, France, Spain, Portugal, Switzerland, and England.

"The peoples of Europe," he said, "are well acquainted with the popularly advertised American trade names and, as a result, are demanding our products. Unfortunately, however, our inability to deliver goods has enabled some European manufacturers of lesser-known brands to make inroads on business which normally would have been ours."

"At the moment," Mr. DeLind commented, "considerable difficulty is being encountered in the actual placing of commitments in this country due to overseas governmental restrictions in connection with the dollar exchange. This condition is expected to improve in most of the countries visited within a few months, or, upon the terms of the British loan becoming operative."

He noted, however, that most cities in Switzerland and Sweden seemed to be "literally bulging with sterling and dollars."

Despite the fact that labor costs throughout Europe are considerably less than half of those in the U. S., Mr. DeLind believes that American manufacturers, by maintaining a flexible policy in respect to these markets, should be able to maintain and increase their portion of sales of products which are typically American.

He said this flexibility may embrace partial or complete fabrication in several of the larger foreign markets. Borg-Warner Corp., he pointed out, has licensing arrangements for the fabrication of certain of their products in England, Sweden, and France, and others are contemplated. "There is a noticeable new spirit of willingness on the part of the British manufacturer to cooperate on matters of mutual interest on world-wide distribution," Mr. DeLind reported. "In this connection, Borg-Warner International has launched a novel plan to handle exports throughout the world of products made by the associated and subsidiary companies of the parent B-W Corp."

Mr. DeLind said that while he found plenty of food through his European tour, he noticed an extreme lack of goods ranging from clothing to automobiles and refrigerators.

## Locks Off Export Control List

WASHINGTON, D. C.—Refrigerator locks have been removed from the positive list of commodities requiring validated licenses for export and placed on general license.

## Ice-Candy Machines, Bottle Coolers Being Turned Out In India

DETROIT—Literature describing bottle coolers and ice-candy machines being manufactured by Blue Star Engineering Co., air conditioning and refrigeration engineering firm in Bombay, India, has been received by the NEWS.

Produced in four models, the ice-candy or ice-fruit plant consists of a freezing and storage combination cabinet and a refrigerating unit, according to the literature.

The cabinet is fitted with a master tank of 1/2-in. M.S. plate containing calcium chloride brine solution. Installed along the bottom of the insulated master tank and immersed in the brine are cooling coils over which brine is forced by an electric motor-driven agitator.

Inserted in the master tank and occupying about two-thirds of its length are smaller storage tanks surrounded by the brine. The remainder of the master tank is equipped with four slotted frames for holding moulds in which the candies are frozen.

Made of masonite or wood paneling on a timber frame, the cabinet is insulated with 4 in. of thick slab cork and sealed with hot bitumen.

Two models measure approximately 6 ft. 9 in. x 2 ft. 9 in. x 2 ft. 11 in., the other two about 7 ft. 9 in. x 3 ft. 3 in. x 2 ft. 11 in. Approximate freezing capacity (in standard 1-oz. candies and based on condensing unit operation of 18 hours a day, with air temperature not exceeding 100° F.) is given as 4,000 for one model, 6,000 for two, and 8,000 for the fourth. Storage capacity for two models is listed as 1,800 and for the other two as 2,400.

Blue Star "Dri-Kool" bottle coolers are produced in four, six, eight, 10, and 12-compartment models, with approximate capacities in bottles of 200, 300, 400, 500, and 600, respectively.

All coolers are 34 in. in width and 36 in. in height. Lengths are 38, 52, 66, 80, and 94 in.

The firm has branches in Madras, New Delhi, and Karachi.

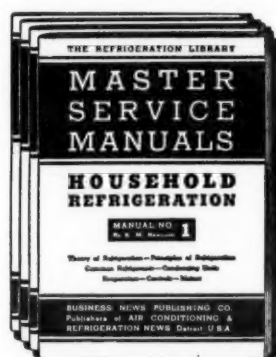
## To Head Kelvinator Servicing in Delhi After Training Course

LONDON, Ontario—Patrick Michael O'Brien of Delhi, India, just recently came here to take a six-month training course in refrigeration servicing at Kelvinator of Canada, Ltd.

He plans to return to Delhi to take charge of servicing Kelvinator products there.

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By K. M. Newcum

## SERVICE INFORMATION

MANUAL NO. 4—Service information on 12 makes of household electric refrigerators including Absopure, Apex, Atwater Kent, Coldspot (Sunbeam and Sears), Copeland, Dayton (Niagara), Fairbanks-Morse, Graybar Ilg-Kold, Iceberg, Liberty, Rice, and Servel. 129 illustrations. 128 pages. Price \$1.00.

## Commercial Refrigeration

MANUAL NO. C-1—The theory and principles of refrigeration presented in a more complete manner than in household manuals. Properties of refrigerants, including effect on lubricating oils. Types of refrigerant cylinders, valves, and safety devices. Methods of drying and transferring refrigerants. 96 pages. 59 illustrations. 10 tables. Price \$1.00.

MANUAL NO. C-2—Installation and service methods. Detailed information on commercial condensing units and their component parts. Water regulating valves, both electric and pressure-actuated types. Flooded evaporators and low side float valves. Two-temperature flooded systems. 112 pages. 108 illustrations. Price \$1.00.

MANUAL NO. C-3—Installation and service methods continued. Chapters on expansion evaporators, including blower units and all modern types. Thermostatic and temperature controls. Refrigerant control valves. Electric motors, starters, overload relays. 144 pages. 116 illustrations. 7 tables. Price \$1.00.

## THEORY

MANUAL NO. 1—The theory and principles of refrigeration explained in simple terms. Characteristics of common refrigerants. Construction and operation of the major component parts of a household refrigerator. 144 pages. 114 illustrations. 6 tables and charts. Price \$1.00.

## DIAGRAMS

MANUAL NO. 2—Diagrams show how to distinguish the difference between the fundamental types of systems. Detailed instructions regarding the proper methods of installing and servicing each type. A comprehensive guide for all the popular makes. 128 pages. 179 illustrations. Price \$1.00.

## DETAILED DATA

MANUAL NO. 3—Detailed data on methods of servicing several special refrigerators including Allison, Electrice, Holmes, U. S. Hermetic, Majestic Conventional, Majestic Hermetic, Socold, Iroquois, and Welsbach. 144 pages. 59 illustrations. Price \$1.00.

Business News Publishing Co., 450 W. Fort St., Detroit 26, Mich.  
Publishers of AIR CONDITIONING & REFRIGERATION NEWS

## How Home Freezing Will Help To Solve New G-E Models-- Food Problems Described by J. W. Krall

MONTREAL, Que. — "For the woman who doesn't like to cook, I predict that very soon there will be available for hire on a day-to-day basis cooks that specialize in certain foods and pastries so that it will be possible for her to have complete meals from soup to dessert prepared in her home for the home freezer."

"Imagine how wonderful the foregoing will be to the woman who is both a housewife and a wage-earner, to the woman who is downtown shopping or at a bridge club, to the husband who has unexpected customers and friends dropping into the office at 5 o'clock that he would like to take home for dinner that same night."

That's the opinion of J. W. Krall, executive vice president of Tyler Fixture Corp., who discussed frozen food cabinets for domestic and commercial use at the eighth annual educational conference of the Interprovincial Association, Refrigeration Service Engineers Society here.

"The quick freezing of food in the home is probably being talked about more today than was any other single development in the last 30 years, with the possible exception of radio," he declared.

"There are many reasons for this, but the most outstanding is because it affects what we eat, how we eat, and when we eat. It is being talked about so much that many in the refrigeration industry are a little fearful of sales resistance because of the tendency on the part of many to classify the quick freezing of food as a new development. Such is emphatically not the case."

"However, even yet many people feel that the personal food freezer was necessary because of the war and like the rationing of gas, tires, sugar, and meat would disappear during peace time years. Nothing could be farther from the facts."

"True, war and the subsequent rationing of foods did bring into prominence the storage of food by quick freezing—and thereby saved the refrigeration industry many millions of dollars in advertising; but that's all," pointed out Mr. Krall.

"In human experience the trouble with the food supply is that we had too little, too much, or none. You cannot argue with nature's growing moods unless you trick her with costly hot houses. But with the right size freezer you can have all you want, when you want it, and if you want it."

### Get Foods When Cost Is Low

"Consider the quick freezing of raw foods with which you are all more or less familiar. Broilers, bought when in season in large quantities and then used during the cold winter months. Lambs, purchased when they are plentiful and relatively low in cost. Game or fish, frozen and brought out at some later date so that you can retell the lie you told when you first brought them home or make up a new one. Corn, picked when ripe and quickly frozen; peas and green beans; peaches, strawberries, raspberries, applesauce, and many others. The juice of berries frozen and ready to be made into jelly when the housewife has the time and feels the inclination."

The phrase "out of season" will be used when speaking about clothes, but not about food, he said.

"How much trouble is all this quick freezing of raw foods? Anyone that can wrap a package and boil an egg is entirely competent. Gone, and very soon, will be the days of the Mason jars and gallons of boiling water with the many serious accidents that have so frequently resulted."

"Children who have heretofore been chased out of the kitchen to safeguard them against injury will be asked to join in the fun, and the husband will welcome the opportunity

of helping. The groceries, meat, and fish markets, vegetable stores of Florida, California, Europe and, indeed, all over the world will be in your home."

"But there is another advantage of having a home freezer that has revealed itself," said Mr. Krall. "Quite as well as it keeps raw foods, the freezer preserves the flavor of cooked foods! And there, at least in my opinion, is the home miracle long wished for by both the wife as well as the husband."

"Take pies, for example—the dough board is out, the Crisco, the flour, and the filling which makes the kitchen a mess to start with—why not make six pies instead of one. Bake one for immediate consumption and freeze the remaining five. Experiments have conclusively proven that the crust becomes flakier after freezing."

"The same is true of biscuits and rolls. And bread—how many of you have been telephoned at the office just before leaving for the day and asked to stop by the store and bring home a loaf of bread. Now you can stop and buy 10 loaves. Use the one that you need for that particular meal and freeze the remainder against other such emergencies."

"Chicken-ala-king—instead of preparing enough for one meal only, why not make a gallon. It's nice to have handy for unexpected guests."

"Roasts—why cook just one when it's just as easy to prepare four or five," he suggests.

### On Thanksgiving, You'll Be Glad

"Turkeys and roast chicken complete with stuffing and gravy now has a definite place in the home freezer. Soup stock, cranberry sauce, salad—yes, and even French fried potatoes that I guarantee will taste even better when heated than they did immediately after cooking."

Shipping containers for frozen foods in small quantities have been designed that will make it possible for restaurants famous all over the world to send their specialties either by air or by express, such as oysters—a la-Rockefeller from Antoine's in New Orleans; curried shrimp from Bookbinder's in Philadelphia; crepe suzettes from the Plaza in New York; lobster—a la-Newburgh from Snyder's in Baltimore, he emphasized.

"The statements made regarding the quick freezing and storage of frozen foods are not figments of imagination. Neither do they represent wishful thinking by a manufacturer of low temperature cabinets. They are realities and being practiced by thousands of housewives today."

"These facts plus many others have firmly established the need of the manufacture of home lockers. Indeed, the need is so apparent that too many home lockers are being made today by manufacturing companies that have little regard for quality and sound refrigeration engineering principles," averred Mr. Krall.

"The reputable manufacturers are aware of the danger to the market but, unfortunately, little can be done except to discourage the purchase of such equipment by the sales promotion and advertising of quality, guarantees, and good manufacturing principles."

"Before purchasing your home freezer, be sure that the outer shell is sealed against infiltration of moisture that will eventually waterlog your insulation, thereby reducing the efficiency of the unit," he advised. "Be certain that proper cabinet temperatures are possible by adequate coiling and the use of a compressor that has sufficient capacity."

"Let someone familiar with refrigeration advise you regarding the amount of insulation that is used. Buy a cabinet that is sturdy in construction and will withstand hard usage and abuse."

(Concluded from Page 1, Column 2)

bring the electric wires into the unit and assure a permanent seal and a locking arrangement between the connecting rod and piston pin which permits the use of oversize bearing surfaces. Forced feed lubrication is used.

The condenser is of welded steel construction.

All models are housed in a one piece, sheet steel cabinet finished in Glyptal baked enamel that is said to be 80% more stain resistant than the enamel used in 1942. This enamel is also said to be 70% more grease resistant, 45% more resistant to mars and scratches, and to retain its color 20% better.

Fiberglass insulation is used throughout the cabinet and door.

The cabinet inner doors are of white Textolite and float in what is claimed to be a moistureproof, odorproof, smudgeproof, balloon type rubber gasket. The outer side of the door is steel. A trigger-action latch, on contact with the cabinet, automatically pulls the door closed and holds it tight.

Inside the cabinet, the freezer compartment is made of stainless steel and is mounted at one side of the cabinet to provide more shelf space. A spring action door hinge holds the freezer door open or closed.

Capacities of the freezer sections in the G-E refrigerators range from 10 packages of frozen food and two ice trays in the 6 cu. ft. model to 20 packages of frozen food and four ice trays in the deluxe 8 cu. ft. and 10 cu. ft. models.

With ice trays removed, the 8 cu. ft. deluxe model will hold 35 frozen food packages.

All models have a Tel-A-Frost indicator which tells the user when it is time to defrost. All are equipped with a light in the rear wall of the cabinet which automatically turns on when the door opens.

The 6 cu. ft. and the low priced 8 cu. ft. models have Prosol finished steel shelves, while the higher priced units have stainless steel shelves.

The 8 cu. ft. deluxe model has a sliding shelf that may be used as a serving tray, a removable utility shelf, a half shelf, and a glass split shelf. The split shelf permits stacking the vegetable and fruit drawers on top of one another to leave an open space capable of accommodating a 30 lb. turkey.

The vegetable and fruit drawers in the deluxe models have 800 cu. in. capacity each, while a meat storage drawer has 890 cu. in. capacity. The drawers are made of porcelain on steel and are 6 in. deep.

The deluxe units also have a wire utility basket.

The home freezers have all the mechanical features of the refrigerators but are powered by a 1/4 hp. motor. An automatic temperature control with an adjustable dial holds a temperature of 0° F. at normal setting. No change in setting is required for freezing several packages. When larger amounts are to be frozen, the control can reduce the temperature in the cabinet to -30° F.

The 4 cu. ft. freezer has a capacity of 140 lbs. of frozen foods while the 8 cu. ft. model doubles that amount. Storage compartments in either model do not exceed 20 in. in depth, so that a short woman can readily reach to the floor of the compartment.

The 4 cu. ft. model can accommodate three wire baskets across the upper half of the storage compartment. The 8 cu. ft. model is equipped with four removable wire baskets, one of which incorporates a small thermometer. Two shelves are built into the left side of this model. On them 35 lbs. of food can be frozen at one time.

To prevent infiltration of moisture into the freezers, all joints and seams are electric welded, while "blind nuts" eliminate the necessity for bolts to completely penetrate the walls.

Lids are counter balanced and equipped with interior lights.

## Home Freezer Makes Swell Dinette Table, G-E Dealers Hear

DETROIT—General Electric dealers in Michigan—at least those estimated 700 who were able to buck traffic-crippling snow drifts to get to a G-E new product demonstration here last week—heard:

"Our G-E 4-cu. ft. home freezer is very popular with the city 'cliff dwellers.' They find it makes a very good dinette table."—Ken Roe, commercial engineer, refrigeration division, General Electric Co.

"Every home freezer owner has his specialty. I have the microphone, so you are going to hear mine. My specialty is orange juice. My wife and I buy oranges by the crate. We take an evening off and squeeze oranges—the whole crate of them. Result—we have gallons of orange juice for the freezer and only have to wash the squeezer once."—Mr. Roe again.

"If you drop your sterling silver into the G-E Disposall, don't worry about it. It won't hurt the Disposall one bit."—Terry Kennedy, manager of the electric sink and dishwasher division, General Electric Co.

"Advertising brings the customer to the product. Merchandising then must push the product to the customer."—Joe Hunt, sales manager, vacuum cleaner division, G-E Co.

"You are always hearing about the romance of the appliance business. Yet what product has more romance attached to it than a blanket?" H. A. Pritchard, district sales representative, General Electric Co.

## Wheeler Gets New Post With G-E In Southeast

ATLANTA—Fay W. Wheeler has resigned as local manager for the General Electric Co.'s appliance divisions in Nashville to assume responsibility for heating device and fan sales in the southeastern district, it is announced by Charles R. Pritchard, general sales manager of the G-E Appliance & Merchandise Dept.

Mr. Wheeler's former duties in Nashville have been assigned to Dorsey Hines, local appliance manager in Birmingham.

Mr. Hines joined the General Electric Supply Corp. as district manager in Baltimore, and was subsequently connected with the General Electric air conditioning and commercial refrigeration department in various capacities before he moved to Birmingham in 1945 as local manager of appliance sales.

In succeeding Mr. Wheeler, Mr. Hines assumed local manager responsibilities for Tennessee and Kentucky, as well as Alabama.

## Thomas Retires As Head of Liquid Carbonic Pacific Corp.

CHICAGO—Retirement of J. A. Thomas as president of the Liquid Carbonic Pacific Corp., Ltd., and assumption of that office by P. F. Lavedan, president of Liquid Carbonic Corp. here, was announced recently.

H. C. Mathey, formerly dry ice sales manager for Liquid Carbonic Corp. in New York City, became sales manager of the Pacific corporation on March 1.

# NEW CATALOG

**M&E EST. 1866**

## WALL and CEILING DIFFUSERS

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**ALL STEEL WALK-IN COOLERS**  
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## Wholesalers-Suppliers Met at Social Functions



A group of midwestern members took over this table during the past-president's dinner at the R.E.W.A. meeting. Left to right: Paul Hopper, W. H. Kiefaber Co., Dayton; W. J. Culver, Jr., J. Geo. Fischer & Sons, Inc., Saginaw, Mich.; E. L. Semeyn and Martin Bontekoe, Midwest Refrigeration Supply, Grand Rapids, Mich.; Jack Homan, Allied Supply Co., Dayton; Mrs. Elmer Davey; Elmer Davey, Lee Equipment Co., Detroit; Hugo Smith, Cleveland; Champ O'Heron and B. F. Lifsey, Lifesey Distributing Co., Flint, Mich.



Left to right in this group are Russell E. Thompson, R. E. Thompson Co., St. Louis; Oliver Forslund, Forslund Pump & Machinery Co., Kansas City; Charles Boylan, Weatherhead Co., Cleveland; Mrs. C. W. Harris; C. W. Harris, Harris Supply Co., Grand Rapids; Ila Harris Pool, manager of the newly opened Harris Supply Co. branch in Kalamazoo.



Manufacturers mingled with the wholesalers at social events during the convention. Clockwise around the table here are Mrs. C. W. Dennis, Dennis Refrigeration Supply, Sioux City, Iowa; John Dube, vice president, Alco Valve Co.; Mrs. L. C. McKesson; L. C. McKesson, sales manager, Ansul Chemical Co.; Herman Goldberg, Herman Goldberg Co.; Paul Shapiro, Superior Refrigeration Supply, Kansas City; Mrs. Shapiro; A. L. Baker, assistant sales manager, Alco Valve Co.

## Parts and Equipment Wholesalers Get a Report on Their Association's Activity

(Concluded from Page 1, Column 5) what would happen to our industry. Was wild inflation to occur or were people to be sensible about increasing prices? Would there be a flood of merchandise to glut the market?

"While inflation in an uncontrollable manner has not taken place, there have been many price increases and the situation is still precarious. Merchandise that has been in storage, or shall we say hoarded, is now coming out on the market. Surplus war materials and the general flow of materials from our regular sources of supply are now beginning to fill up the pipelines and in certain commodities it is now a buyer's market. In some cases, inventories are considerably unbalanced."

Pointing out that membership in R.E.W.A. was increasing, the retiring president said that what was more important is that at the present time more than 65% of the members have Class A or Class B membership. (Classes of membership in R.E.W.A. are determined by volume of business done, Class A being in the highest bracket.)

"Cooperation among our membership has had unprecedented examples in the past year," said Mr. Glou. "During the past few months several

of our members had fires in their establishments that destroyed their stocks completely. When this information reached other members, the offers of help and merchandise to replace these lost stocks came in such great numbers from association members all over the country that these members were able to resume business almost without interruption.

"The cooperation of the members in these instances was outstanding because some of these wholesalers handle other items besides refrigeration and belong to other associations and the refrigeration group, as a group, was the only one to extend assistance."

George Roche, who has been chairman of the R.E.W.A. manufacturers' relations committee during the past year, outlined the major activities of this committee as follows:

1. Development of a program whereby the wholesalers and manufacturers will meet by product groups.
2. Development of a better schedule for testing of refrigerant cylinders, so that wholesalers will not be stuck with the cylinders when they're out of the legal inspection period.
3. Universal Cooler was cited for

New officers and some of the directors of the Refrigeration Equipment Wholesalers Association, national organization of parts and equipment wholesalers, posed for this picture after recent meeting in Chicago.

Seated, left to right, are: Ted Glou, Central Service Supply Co., Syracuse, retiring president and a director; Alex Holcombe, Victor Sales & Supply Co., Philadelphia, treasurer;

J. F. Wickham, Wickham Supply Co., Lincoln, Neb., vice president; George Roche, Roche & Hull, Baltimore, president; R. L. Hinshaw, Hinshaw Supply Co., San Francisco, secretary; Warren H. Parker, Hasco, Inc., Greensboro, N. C., director.

Standing, left to right: Irving Fajans, Aetna Supply Co., New York City, director; Harold McCombs, McCombs Refrigeration Supply Co., Denver, director; Joseph M. Mideke,

Mideke Supply Co., Oklahoma City, Okla., director; J. D. Ross, Railway & Engineering Supplies, Ltd., Montreal, director; H. Whiting Holt, William M. Orr Co., Pittsburgh, director; J. P. Glass, Chase Refrigeration Supply, Chicago, director; Edward C. Marsden, Marsden & Wasserman, Inc., Hartford, Conn., director; H. S. McCloud, executive secretary; Catherine Fisher, assistant secretary of the association.

the manner of listing its parts in its part catalog, and the committee hopes that others will follow the general procedure.

4. Copper tubing producers were commended for revamping their price schedules, making them easier to use.

5. Wholesalers would like a uniform cash discount policy by manufacturers.

6. Manufacturers generally were urged by the committee to provide net resale price sheets.

7. The limitation of liability clause which some manufacturers invoke when they fill an order, and which has apparently disturbed some wholesalers, is a matter of the individual manufacturer's choice, Mr. Roche pointed out. If a wholesaler feels he must do something to protect himself on this score, he can take out product liability insurance.

8. Wholesalers would like to see all guarantees limited to 90 days.

9. A clear definition of a "unit equipment manufacturer" is sought by the wholesalers.

10. Representatives of R.E.W.A. met many times in the past year with officials of Kinetic Chemicals, Inc., including the top officers of the company. Attempts were made to get clarifications of the distribution policy on "Freon" and on the emergency order set-up. Rewa also submitted a suggested plan for speeding cylinder return, a factor which Kinetic said was of major

importance in the shortage.

Committees of the association named for the coming year are as follows:

**Manufacturers' Relations Committee:** Irving J. Fajans, Aetna Supply Co., New York City; Benjamin V. Blazer, M. Blazer & Son, Passaic, N. Y.; J. L. Homan, Allied Supply Co., Dayton; Frank R. Pond, Refrigeration & Industrial Supply Co., Inc., Minneapolis.

**Trade Relations Committee:** J. P. Glass, Chase Refrigeration Supply, Chicago; James H. Downs, Refrigeration Supplies, Cleveland; Harold R. McCombs, McCombs Refrigeration Supply Co., Denver; R. L. Hinshaw, Hinshaw Supply Co., San Francisco; L. P. Roth, Refrigeration Service, Inc., Los Angeles.

**Government Contact Committee:** Edward C. Marsden, Marsden & Wasserman, Inc., Hartford, Conn.; Francis I. Purtell, Acar Supply Co., Philadelphia; C. V. Hale, Noland Co., Inc., Newport News, Va.

**Finance Committee:** A. H. Holcombe, Jr., Victor Sales & Supply Co., Philadelphia; J. F. Wickham, Wickham Supply Co., Lincoln, Neb.; H. Whiting Holt, Wm. M. Orr Co., Pittsburgh.

**Advertising Committee:** Theodore I. Glou, Central Service Supply Co., Syracuse, N. Y.; Joseph M. Mideke, Mideke Supply Co., Oklahoma City, Okla.; J. D. Ross, Railway & Engineering Specialties, Ltd., Montreal, Quebec, Canada.

## White Heads Export Service for Remington

CORTLAND, N. Y.—Jack A. White has joined the staff of Remington Corp. at Cortland, N. Y., manufacturer of packaged air conditioning equipment, to establish a new export service department, Herbert L. Laube, president, announced.

A native of Milwaukee, Mr. White attended the University of Wisconsin and Marquette university, receiving his engineering degree in 1944.

For two years before joining Remington he was an air conditioning application engineer with Carrier Corp., in Boston and Syracuse.

## Davison Chemical Co. Sees Earnings Increase

BALTIMORE—A net increase in earnings of about \$1,200,000 for the six months ending June 30, 1947, is forecast for the Davison Chemical Corp. by its president, Chester F. Hockley.

Mr. Hockley bases his estimate on the level of current sales and earnings.

This increase in earnings will produce a net income for the fiscal year ending on the same date of about \$1,460,000, he indicated.

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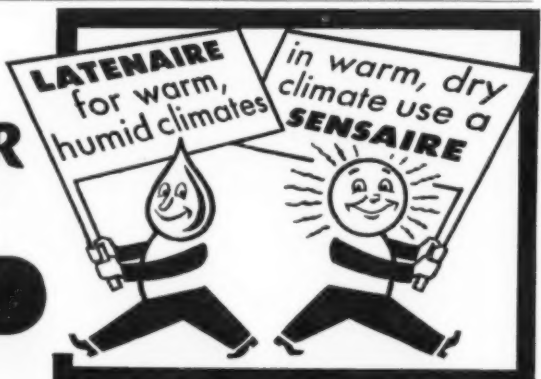
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REMEMBER



## Boycott of 'Gray Market' Steel--

(Concluded from Page 1, Column 3)  
remain anonymous. Usually they make their propositions only by telephone.

"Most offers come from self-styled 'steel brokers,' described as 'anybody with an office and a pencil,' a steel source explained. "They gain access to some scrap which they offer to hard-pressed small users at reasonable prices in return for steel products at quoted figures."

According to a *Wall Street Journal* survey of this market, variously referred to as "gray," "midnight," and "black," small manufacturers are the most willing to pay premium prices for steel.

"Generally, their limited capital requires that they keep production going," the *Journal* said. "Often they can't get deliveries from their regular suppliers who include jobbers, the traditional 'middle men' of the steel industry. These jobbers... are as critical as the industry at large of the fly-by-night 'brokers.'"

The *Journal* said a small Pittsburgh fabricator recently bought at Chicago 100 tons of sheets for \$200 a ton, more than twice the warehouse price.

### \$100 PREMIUMS PAID

"He didn't particularly want to do it," the newspaper reported, "but he had to because he needed to complete goods he was making. The cash he would get from his customers for them was very important."

Premiums of \$100 a ton on sheet steel are being freely paid in the Connecticut Valley, it is said, with small stamping firms probably being the leading payers.

"A small San Francisco shop owner had \$3,000 tied up in an order and needed two steel sheets to finish the job," the *Journal* reports. "He got them from a broker at what, he says meaningfully, was 'a hell of a price.'"

Similar conditions apparently exist to more than a small degree in the refrigeration and air conditioning industry. A number of smaller manufacturers have told the NEWS that they had been approached on numerous occasions by these "brokers" who offer to supply steel "at a price."

Some big concerns deny the existence of such business, others admit its existence but say the tremendous tonnages that are being offered are non-existent, while one major basic steel producer (United States Steel Corp.) admits that the problem is serious.

### 'MORE TALK THAN STEEL'

According to press reports, Bethlehem Steel and Jones & Laughlin declared that the large tonnages offered actually do not exist. Republic Steel told the *Wall Street Journal* the same thing.

The *Journal* quoted the head of one big Pittsburgh company as saying that "there's a heck of a sight more talk than steel." He is reported to have declared that the same incident of a black market offer is told many different ways, "so that the impression is created that a lot more steel is involved than actually is."

Weirton Steel and Youngstown Sheet & Tube are reported as saying that their investigations failed to substantiate that any gray market activities originated with the big producers. The steel manufacturers' claim that their vigilance "keeps all but a fractional amount—no more than 5%—of total steel output out of their (the brokers') hands."

(However, this 5% can run into thousands of tons—and, at double and triple prices, into millions of dollars.)

### SUSPECTS GRAY MARKET

However, Kenneth McRae, of McRae Steel, reportedly told *The Detroit Free Press* that he suspects reinforcing steel is still being rolled at a profit by the biggest steel makers and that they are getting rid of it either through lend lease to the "Bear that walks like a man" or to the gray market.

"Their explanation to him, he avers," said the newspaper account, "is an unconvincing statement to the effect that the capacity output of the mills is sold out for all of 1947 and 1948."

Where do the "brokers" get their steel? Pittsburgh steel men figure it out several ways, the *Wall Street Journal* said.

"A manufacturer may, even in these times of shortage, have a surplus of some kinds of steel. The

'brokers' keep an eye peeled for such situations. They offer a tempting enough price to get the metal. Sometimes, iron and steel scrap dealers horsetrade with steel producers for finished metal. And this finds its way into the hands of the 'black marketers.'

"The 'brokers' also try to 'get to' men who have good contacts with steel manufacturers. Only rarely do they succeed. But they make some mighty attractive offers. . . ."

Occasionally, the report said, steel fabricators get into the "black market" themselves—with a "broker" as a front.

Sensational prices in steel and other metal lines were blamed by purchasing officials on inexperienced executives in top brackets bidding

against each other in spot markets, according to a report in *The New York Times*.

### PLACING UNBALANCED ORDERS

"In most cases these executives have not followed systematic analysis of their future materials requirements and have not placed balanced orders for future delivery with sources of primary metals, spokesmen revealed," *The Times* said.

Other industry spokesmen declared that five procedures can be followed by management executives who wish to cooperate more effectively in efforts to "hold the line" on price policies. These were listed as:

1. Stop buying scarce materials from speculators at excessive prices.
2. Centralize buying functions in an experienced purchasing official of the company and discontinue activities of panic-stricken officials engaged in "bulling the market" for copper,

brass, iron, and steel scrap and steel sheets and strips.

3. Redirect top management activities toward lowering costs of distribution.

4. Review excessive internal expense items and discontinue unnecessary production expense.

5. Shift to more economical machine tools and materials, now beginning to appear in the market for the first time.

### Sherer Electric Bows In

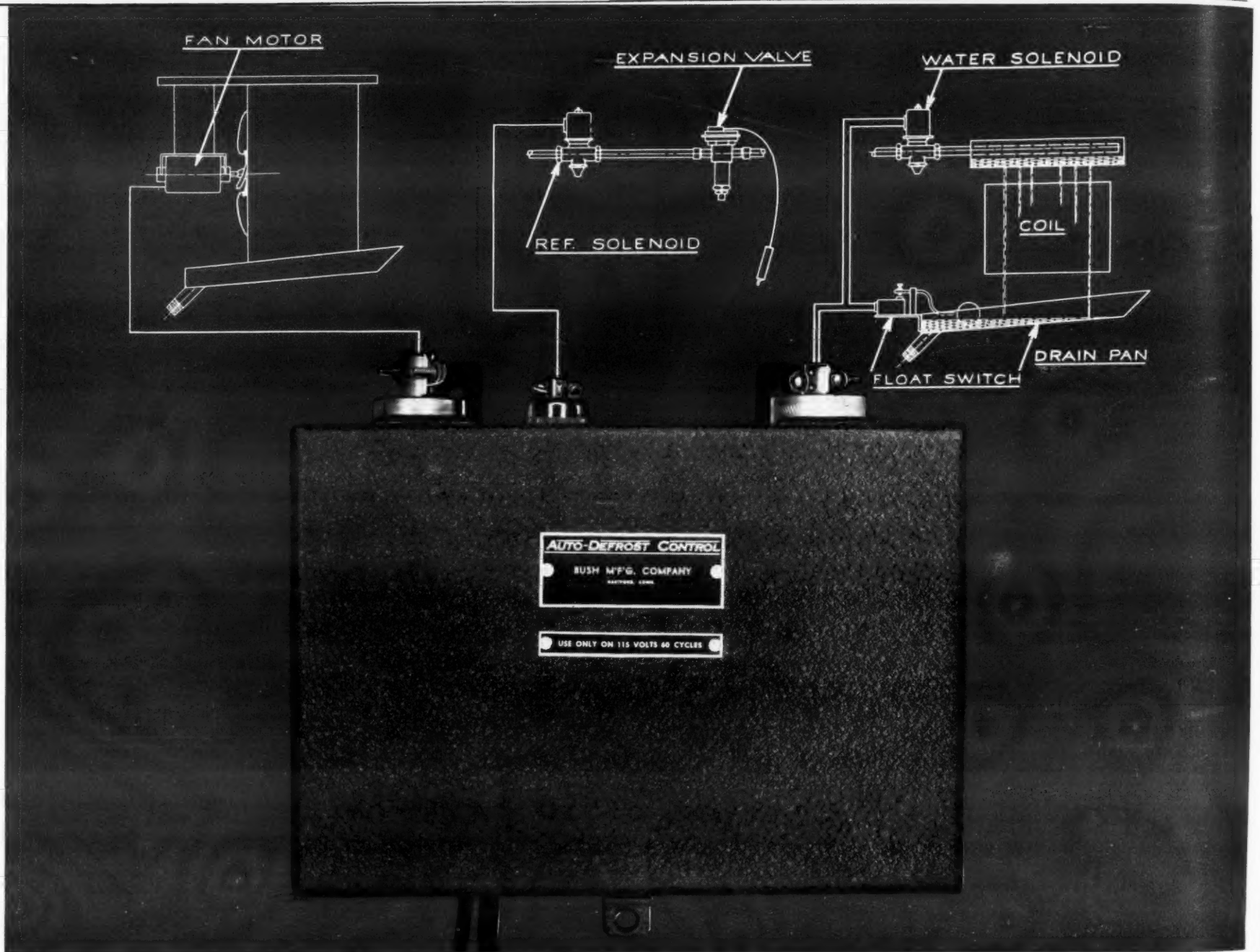
CANTON, Ohio—The Sherer Electric Co. here, owned and operated by Arthur N. Sherer, held a formal opening recently for its newly constructed building at nearby East Canton. The new structure contains offices, display space, storage basement, and loading platform, and will feature a completely equipped model kitchen.

### Library, Fur Storage Conditioned In Nebraska

LINCOLN, Neb.—Two new air conditioning installations to be made in the near future in Lincoln and Omaha have been announced, including the library at Nebraska Wesleyan university here. Mor-Ann Furs, 1811 Farnam St., Omaha, will construct an underground fur storage vault at an estimated cost of \$6,000.

### New Air Conditioning Firm

HASTINGS, Neb.—The Hastings Air Conditioning Co. has filed articles with the Nebraska secretary of state increasing its capitalization to \$100,000 from \$20,000. W. T. Swingle is president and Leo P. Buckley is secretary. Both are of Hastings.



## THERE'S A BIG DEMAND FOR AUTOMATIC DEFROSTING

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Your customers will want the Bush Auto Defrost for, once installed, the Auto Defrost operates entirely without supervision . . . completely defrosting coils when it is necessary.

This revolutionary device is controlled by an electronic circuit, connected in series with the fan motor. When ice causes the fan to draw more current . . . as little as 5% . . . this circuit trips a relay which cuts out the fan motor, starts a timing mechanism, opens a water valve.

Six minutes later, the coil is defrosted. The water then shuts off, a four minute drainage period is allowed, and then the fan is restarted. One Bush Auto Defrost can handle several coolers by means of a simple relay circuit.

See your Bush factory representative about including Auto Defrosts on your next job.

Bush products are sold by leading refrigeration wholesalers everywhere